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Summary.

This issue is characterised by its amusing, bright, commercial, historical, practical, and scientific information. It is full of pictures.

ON p. 122 are Lord Rayleigh's hints on how to fly.

ON p. 196 the German view of the phenol proclamation is given.

ON p. 182 the whole of the insets included in this issue are summarised.

ON p. 138 there begins an operatic tragedy dealing with company-pharmacy.

ON p. 153 we comment upon the need for restricting prescribing by advertisement.

ON p. 157 Mr. Parry tells something about oil of limes that was not known before.

ON p. 127 is an account of an interview with Dr. Power on how the U.S.P. is revised.

ON p. 187 "Six and Sixpence" advises his trade *confrères* how they should advertise.

ON p. 131 a manufacturer of capsules gives the show away, with numerous illustrations.

ON p. 125 are some patriotic verses contributed *à propos* of the volunteer compounders.

ON p. 188 are some interesting legends connected with Paris pharmacy a century ago.

ON p. 168 Miss Florence Peacock describes and illustrates a number of ancient mortars.

ON p. 164 we print interesting pictures and particulars concerning pharmaceutical pottery.

ON p. 158 Mr. Lewis Ough writes about another American resinoid—namely, Helonin.

ON p. 199 are notes on the active principle of rhubarb, emodin, and the estimation of peptones.

ON p. 124 we report on the DIARY Competition, and award one four-guinea prize and ten second prizes.

ON p. 130 are reviews of some new books, including one on the "Open-air Treatment of Consumption."

ON p. 133 are notes on pharmacy-books written by Dr. James Primrose, a forebear of the Earl of Rosebery.

ON p. 158 we print a portrait of Mr. Horace Davenport, in connection with his attachment to "Camwal."

ON p. 174 are pictures showing how lavender oil is distilled in the Alps and how senna is picked in Cairo.

ON p. 169 we give a portrait of Professor Planchon, of Paris, and some account of his history of pharmacy.

ON p. 155 Mr. Glyn-Jones gives some legal advice to chemists in reference to the laws which affect their business.

ON p. 126 we print a letter on the B.P. as a standard which Dr. John Attfield has written in reply to one from us.

ON p. 134 we print a portrait of Mr. John Wade, and his recollections of the United Society of Chemists and Druggists.

ON p. 151 will be found a note concerning the Royal College of Surgeons' action to prevent registered dentists advertising.

ON p. 159 "Xrayser" has something further to say in regard to the Pharmaceutical Council's inactivity *re* company-pharmacy.

ON p. 120 will be found a speech by Mr. Skewes-Cox, M.P., in which he expresses his views on company-pharmacy legislation.

ON p. 119 our Melbourne correspondent writes further in respect to Australian affairs, and gives a useful note on eucalyptus oil.

ON p. 159 is an article dealing with pharmaceutical Volunteers, accompanied by two pages of portraits of chemists in Volunteer uniform.

ON p. 142 will be found an interesting article reminiscent of the drug-trade and of pharmacy in the nineteenth century. It tells of the state of the drug-trade of London in the first year.

ON p. 195 we report a meeting of the London Chamber of Commerce, at which the proclamation preventing the exportation of carbolic acid, &c., was discussed, and grave statements were made.

Besides the foregoing special items this Number contains all the news of the trade for the week, which there is no room to summarise here, but see "Contents." News received after Wednesday will be found in our Coloured Supplement.

Students' Corner.

CONDUCTED BY RICHARD J. MOSS, F.I.C., F.C.S.

QUALITATIVE ANALYSIS.

A MIXTURE of not more than three salts will form the subject of the next exercise in qualitative analysis. The mixture is to be submitted to a thorough systematic examination, all its constituents are to be detected, and proof is to be given that the substances detected are the only constituents of the mixture.

Students' applications for portions of the mixture of salts (accompanied by a *stamped and addressed envelope*, not a stamp merely) will be received up to Wednesday, January **31**, and the samples will be forwarded immediately.

Students' reports will be received up to Saturday, February **10**. Each report should contain a concise account of the work done, and should include a list of the constituents detected. In this list any substance regarded as an accidental impurity should be distinguished from the essential constituents of the salts composing the mixture.

REPORTS.

The mixture of salts sent to correspondents last month consisted of **3** parts of potash alum, **1** of ammonium ferrous sulphate, and one of manganous sulphate.

The calculated composition of this mixture is—

Fe	2·86
Mn	4·57
Al	3·47
K	4·93
NH_4	1·84
SO_4	42·03
H_2O	40·30
	100·00

The only impurity of note was a somewhat large trace of sodium.

Samples of the mixture of salts were sent to eighty-seven applicants, and forty-one reports of analyses were received in reply.

Two constituents of the mixture, iron and the sulphuric radicle, were detected by all our correspondents. There were six failures each in the detection of aluminium and potassium, four in the detection of ammonium, but in the case of manganese there were twenty-one failures. These results are interesting when the relative quantity of each constituent in the mixture is considered. Everybody detected the small quantity of iron, but only one out of every two detected the much larger quantity of manganese.

Manganese should always be sought for in the preliminary examination in the dry way, which invariably precedes the examination in the wet way in any properly conducted qualitative analysis. If manganese, when present, is not detected by the dry method, there is great risk of its being overlooked in carrying out the wet method of analysis. The present exercise well exemplifies this fact. Without exception, those who detected manganese detected it in the first case by fusing a portion of the powder with sodium carbonate and potassium nitrate, and observing that a green mass was produced.

Having detected manganese in this way, it was important to select a method of analysis by which manganese could be effectually separated from the other constituents of the mixture. The ordinary method, depending on the use of the hydroxides of the alkalies, is very unsatisfactory, as the reports before us abundantly show. The best method is that depending upon the use of barium carbonate. For the particulars of this method we must refer students to text-books of analysis, with the warning that reading about the operations to be performed will not suffice: the whole process must be studied by actual experiment until the principles involved are understood and the manipulative details completely mastered.

PRIZES.

The First Prize for the best analysis has been awarded to
A. E. KING, c/o Messrs. Fuller & Co., Norwich.

The Second Prize has been awarded to
ROBERT WHITTAKER, c/o Mr. R. Shorrock, Darwen.

MARKS AWARDED FOR ANALYSIS.

A. E. King (1st prize)	100	J. W. T.	84
R. Whittaker	98	Buller	83
Algol	97	H. M.	81
A. E. Beeston	96	G. F. Godson	80
Welburn	95	H. Cocking	80
E. H. H.	94	A. L. Fraser	79
E. M. Leese	94	Phenalgin	78
R. R. B.	94	A. C. Watmough	77
Aberthaw	93	Eros	75
Hopeful	93	Longtome	72
J. S. H.	90	D. Finlayson	70
Leven	90	Sumatra	68
Cave	89	Spes	67
Cumbriana	89	T. Yates	66
Mycelium	88	Phosphorus	65
Interested	87	Tragacanth	63
W. Maxwell	87	T. French	62
S. V. R.	86	James E. Schofield	55
J. R. Stott	86	Alec	20
Oleum	85	Japoconitine	—
Baden Powell	85		

TO CORRESPONDENTS.

Prizes.—The students to whom prizes are awarded are requested to write at once to the Publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half a guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

Note.—All communications should include the names and addresses of the writers.

J. S. H.—The reactions you observed indicated more than a trace of manganese. It was not possible to separate the manganese from the iron and aluminium by the method you employed.

LEVEN.—Traces of sodium are almost invariably found in salts. An extremely small quantity of a sodium-salt obscures the reddish-violet flame-coloration of potassium, though the latter metal be present in quantity. Flame-coloration alone is therefore liable to mislead in forming an estimate of the quantity of sodium you are dealing with. If there is not enough sodium to precipitate easily in the form of metantimonate, you may conclude that the flame-indications are due to a trace only.

CAVE.—You should have tested for manganese in the preliminary examination, by fusing the powder with sodium carbonate and potassium nitrate.

CUMBRIANA.—Your fusion-test for manganese must have been carelessly carried out. You should have been able to detect easily one-tenth of the quantity of manganese, using only two or three milligrammes of the powder.

MYCELIUM.—See remarks to "Cave." There was a great deal more to be found out in the preliminary examination in the dry way.

INTERESTED.—You obtained a greenish mass when you fused a portion of the powder with sodium carbonate on platinum foil. Nothing that you subsequently detected would account for this. It was due to manganese, oxidised to sodium manganate by the action of the oxygen of the air.

W. MAXWELL.—The sulphur dioxide you detected in the preliminary examination was a product of the decomposition of sulphuric acid. If a sulphite had been present, the addition of any dilute acid to the aqueous solution of the powder would have liberated sulphur dioxide.

S. V. R.—The precipitate you obtained with calcium chloride was calcium sulphate, not citrate. You should have tried whether it carbonised on gentle ignition. In testing for boric acid with turmeric-paper you should always try what colour the particular test-paper you are using gives with a known borate treated in exactly the same way as the unknown salt or mixture under investigation.

J. R. Stott.—See remarks to "J. S. H."

Oleum.—In testing the flame-coloration of the powder you used sulphuric acid for moistening it: hydrochloric acid is usually employed for this purpose, because chlorides are more easily volatilised than sulphates. Under any circumstances you should have evaporated part of the filtrate that gave no precipitate with sodium carbonate, and tested the residue, after ignition, for the alkali metals.

Baden Powell.—You failed to show that the sodium present was anything more than the trace usually found in salts.

J. W. T.—You ought to have noticed the green colour of the mass obtained by fusing the precipitated hydroxides (your group III A) with sodium carbonate and nitrate. The method you followed afforded no other opportunity for detecting manganese, because that metal was carried down as hydroxide along with the hydroxides of iron and aluminium.

G. F. Godson.—The conclusion that the white sublimate obtained on heating the powder in a bulb-tube was "probably sulphur" left the matter in a very unsatisfactory state. You could easily have cut the tube, removed part of the sublimate, however minute, tested it for mercury, arsenic, ammonium, or anything else you think would yield a white sublimate. It was clearly not sulphur, because it dissolved in water; besides, sulphur forms a yellow sublimate. An aqueous solution of the powder treated with a dilute acid gave no precipitate of sulphur, and did not smell of sulphur dioxide, so it was clear a thiosulphate was not present.

A. L. Fraser.—You found that the precipitate obtained with calcium chloride gave, when heated on a platinum wire, a residue which effervesced with dilute hydrochloric acid. Perhaps you did not allow the mass to cool completely before adding the acid. A more important fact to have noted was that the salt did not carbonise when gently ignited, clearly showing that it was not a tartrate or citrate.

Phenalgin.—Your failure to observe any residue when the filtrate containing the alkali metals was evaporated and ignited may have be due to the fused salts being distributed over the surface of the platinum. It is always well in such cases to try whether water dissolves anything off the surface of the platinum.

A. C. Watmough.—The behaviour of your prepared solution with ferric chloride was exactly what it should have been, according to the text-books, if a thiosulphate had been present. There was no such salt in the mixture, and the series of colour-changes you observed, through red to violet, must have been purely imaginary.

Eros.—You say that on adding zinc to a solution of the powder, acidulated with hydrochloric acid, sulphuretted hydrogen was evolved. We tried the experiment, and failed to get sufficient sulphuretted hydrogen to be appreciable by smell or to colour lead-paper. You say that you got a white precipitate on adding calcium chloride to a neutral solution of the powder from which the sulphate had been previously precipitated in the presence of nitric acid. The process by which the sulphate was completely removed should have been fully described. If you used barium, you should have explained how you succeeded in avoiding the use of an excess. Before concluding that an oxalate was present you should have reflected on the fact that you had detected a ferrous salt, and that the powder was readily soluble in water.

Longtome.—The effects of heat on the powder showed conclusively that a tartrate was not present: there was not the slightest indication of carbonisation.

D. Finlayson.—You say you detected ammonia, but it is not included in your summary of results.

Sumatra.—You heated a portion of the powder with sodium hydroxide, and failed to detect a smell of ammonia. If you had placed one drop of a 10-per-cent. solution of the powder upon a little soda lime, about enough to completely absorb the liquid, ammonia would have been evolved in sufficient quantity to immediately change the colour of red litmus-paper. The experiment is best performed in a watch-glass covered with another glass, with the test-paper adhering to it.

Spes.—You did not explain how a phosphate could have been one of the salts in the mixture, considering it was soluble in water and contained an iron salt.

T. Yates.—The precipitate you obtained with silver nitrate must have been silver sulphate, which separates in minute, highly lustrous, silky needles, as unlike the flocculent chloride as it could well be.

Phosphorus.—You should have detected aluminium by the method you describe. Repeat the work with a similar mixture of your own preparation.

Tragacanth.—When sulphates are present in quantity it is necessary to guard against mistaking a precipitate of calcium sulphate for the tartrate or citrate. The sulphate is easily distinguished from the organic salts by its not carbonising when ignited.

T. French.—Your ferrous-sulphate test for nitric acid was not properly carried out. Having added ferrous sulphate—preferably in the solid form—to the solution contained in a test-tube, concentrated sulphuric acid is conveyed to the lower part of the test-tube by means of a pipette, with as little mixing of the acid and solution as possible. Practise the test with a solution of potassium nitrate, diluting it until you reach the limit of sensitiveness.

J. E. Schofield.—You omitted a very important part of the analysis—the preliminary examination of the powder in the dry way. See remarks to "Phosphorus."

Alec.—It is probable you did not use ammonia as a reagent in sufficient quantity: it must always be added in distinct excess.

Japoconitine.—We cannot accept a report which does not bear the signature of the student by whom the work was done.

THE TOURNAMENT.

The third competition shows a slight shuffling of positions. The first three have held the places gained by them last time, but E. H. H. and Welburn have tied and gone up one. Algol, Aberthaw, Hopeful, and others are spurting gallantly, and a keen and healthy rivalry is evident. The following have made 90 per cent.:—

A. E. King	299	Algol	279
A. E. Beeston	290	Cumbriana	277
R. R. B.	287	Aberthaw	
E. H. H.	285	Hopeful	273
Welburn		Baden Powell	271
Leven	282	J. S. H.	

This is only the "half-time" result, and every footballer knows how the game may be completely reversed in the second half. So no one whose name is absent from the present list has good ground for despair.

English News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Food-preservatives Commission.

This Departmental Committee met again on January 18 and 19. On the first day Mr. Thomas F. Blackwell (chairman of Messrs. Crosse & Blackwell) said preservatives were not very general in preserved fruits and jams. His firm in no case used preservatives; they were quite unnecessary, but he would not say they ought to be prohibited if used in moderate quantities.

Mr. John Tubb Thomas, medical officer for Wiltshire, said cases came under his notice years ago in which children he was treating for diarrhœa took milk containing from 40 to 120 gr. of boric acid per gal., with the result that some died. Subsequent experiment on himself showed that about 15 gr. of the acid per day completely upset his digestive organs, and produced sickness with diarrhœa and headache. The use of the acid should certainly be prohibited in new milk. With respect to sausages, he said that three samples taken in November were returned as containing 0·6, 0·7, and 0·8 per cent. of boric acid. If that quantity were used in November, how much would be used in summer-time?

Professor W. H. Corfield, Consulting Sanitary Adviser to her Majesty's Office of Works, said he had found salicylic acid in the lighter British wines and the lighter beers. It was a most undesirable article to put in food. He advocated the prohibition of both boracic acid and salicylic acid, unless it was clearly shown that the drug was perfectly harmless in any quantity in which it was possible that it could be added.

Mr. W. Collingwood Williams, public analyst, Lancashire, had found salicylic acid in a number of temperance, non-alcoholic drinks. In ginger-wine there was from 49 to 113 gr. per gal., in raspberry-wine from 87 to 133 gr. per gal., in orange-wine from 94 to 106 gr. per gal.. and in black-currant wine from 47 to 140 gr. per gal. He also found it in lemon-squash and lime-juice.

Dr. Kaye, medical officer of health of the West Riding County Council, submitted that, although the general death-rate was decreasing, that of infants was on the increase, the greater proportion of infantile deaths occurring in the third quarter of the year This was the quarter in which children consumed a maximum amount of milk. He suggested that this excessive death-rate in the third quarter of the year was due, at least to some extent, to the growing and excessive use of preservatives.

Mr. Otto Hehner. F.I.C.. also gave evidence.

The Exeter Analyst's Opinions.

Mr. C. J. Moor, Public Analyst for Exeter, in his annual report to the City Council on January 14, said that among the 100 samples examined by him were 1 sample of asafetida, 2 of tr. asafetidæ, 2 of cloves, and 3 of saffron. Three were adulterated—namely, the asafetida, which contained a large quantity of mineral matter, and the two tinctures, which, being made from adulterated asafetida, were deficient in extractive matter. He was of opinion that the system of giving public notice of the standards to which foods and drugs should conform might be extended with advantage, and he was prepared to draw up a list of articles of common use in which standards for composition were known. The publication of a circular on this matter, which might also include extracts from the New Food and Drugs Act, would assist traders who desired to be certain that the goods they offered for sale were strictly genuine. He was likewise strongly of opinion that drugs should receive more attention. There were some 400 different foods and drugs which were all more or less liable to adulteration or deficiencies. Many articles were very rarely or never examined under the Acts, and, indeed, never would be unless an increase were made in the total number of samples purchased during the year.

The Manx Pharmacy Bill.

The following is the wording of the company-clause of the Pharmacy Bill which has passed the House of Keys (*C. & D.*, January 20, page 96): —

No company may carry on the business and use the description of chemist and druggist unless such business is *bonâ fide* conducted by a manager or assistant being a duly registered pharmaceutical chemist or chemist and druggist, as the case may require, and unless the name of the person so qualified is conspicuously posted in the shop or other place in which the business is carried on, but subject to this provision: Anything which would be an offence under Section 6 of this Act if committed by an individual shall be an offence if committed by a company.

The added clause of the poison schedule now reads:—

Carbolic acid and its poisonous preparations.
Phosphorus.
Hydrochloric acid.
Sulphuric acid
Sulphate of copper.
Chlorine and its poisonous preparations.
Add to "precipitate, red oxide of mercury)," "and its preparations."
Add to "precipitate, white (ammoniated oxide of mercury)," "and its preparations."

Munificent Gifts

Sir J. Brunner, M.P., and Dr. Mond have agreed to spend 5.400*l.* on a new pavilion for the Winnington and Northwich Recreation Club. Messrs. Brunner, Mond & Co. have also undertaken to add to the pavilion a great hall, &c., at a cost of about 3.000*l.* They also gave the site.

Photograph-exhibition.

The Royal Photographic Society, 66 Russell Square, W.C., are arranging a series of "one-man" shows. The first, to be opened on January 31, will be a selection of the works of Mr. J. Craig Annan. It is proposed to keep the exhibition open for the month of February from 10 to 4, admission to be on presentation of card.

Brewing at Birmingham.

A School of Brewing has been established in connection with the Birmingham University, and Mr Adrian J. Brown, consulting expert to Messrs. W. Salt & Sons, has been appointed professor and director. The course of study will occupy three sessions, and the subjects taught will be mathematics, physics, chemistry, engineering, electrical engineering, and practical elementary bacteriology. The course will include distilling, vinegar-manufacture, malting, and the like. The actual practice of brewing will not be illustrated, experience having shown the inability of a small plant for this purpose, but periodical visits will be paid to local breweries.

Theft of Chemicals.

At the Newington Sessions on January 19, the hearing was resumed of the indictment against John Jones, labourer, Henry Parker, dealer, Jethro Lardent, herbalist, and William Edward Royon, foreman, for conspiring to steal drugs to the value of 27*l.* 12*s.* from Messrs. Davy, Hill & Son, Yates & Hicks, wholesale druggists, Southwark. (*C. & D.*, January 20, page 109.) Evidence was given by Det.-sergt. Divall, who visited Lardent, and found on his premises the stolen iodoform, camphor, and quicksilver. Lardent, giving evidence on oath, denied that he had anything to do with the goods beyond lending Royon some money. They were bought by Royon, who had deceived him.

Parker, likewise giving evidence on oath, said he knew nothing of the conspiracy. When Jones asked him to cart some goods from prosecutors' premises he had no suspicion that the goods were stolen, and the only part he took in the transaction was to cart them, for which Jones paid him 12*s.*

The jury returned a verdict of guilty against Lardent, and not guilty against Parker.

Mr McConnell, Q.C. (Chairman), said he would take into consideration that prisoners had been about a month in custody, and sentenced Lardent to eleven months' imprisonment, Royon to five months', and Jones to six weeks in the second division. Parker was discharged

Perjury.

At the Central Criminal Court on January 18, Max Pozner, described as a chemist, was sentenced to nine months' hard labour for giving false evidence at Clerkenwell Sessions in a case in which a man named Benfield was indicted for receiving stolen beeswax.

The Sale of Carbolic Acid.

During a charge of attempted suicide with carbolic acid recently brought before the Birkenhead Magistrates, Alderman Thompson expressed regret that carbolic acid should be so easily obtained at any chemist's by any person. There ought to be some restriction on its sale.

Suicide with Vermin-killer.

At Wolverhampton on January 18, an inquiry held into the cause of death of a woman named Devitt disclosed the fact that she had died by poisoning. The stomach and parts of the viscera were examined by Mr. E. W. Taylor Jones, borough analyst, who found therein $\frac{1}{10}$ gr. of strychnine, and thought that evidently a poisonous dose of the alkaloid had been taken, probably in the form of "Battle's vermin-killer," the active principle of which was strychnine, a sixpenny packet containing about 2 gr. Sidney Phillips, pharmaceutical chemist, Lichfield, deposed that a young woman bought a packet of "Battle's vermin-killer" at his shop, and signed the poison-book as "J. J. Devitt." She told him she wanted the poison for killing mice. A verdict of suicide whilst insane was returned.

Chlorodyne-poisoning.

The Manchester City Coroner held an inquiry on January 22, touching the death of a woman named Isabella Reynolds. Evidence was given showing that on January 19 Miss Reynolds was all right in health in the morning. Deceased was found unconscious, and a bottle nearly empty, labelled "Chlorodyne—Poison," was found in her pocket. She was removed to the Royal Infirmary, but died in spite of all efforts at restoration. Mr. John S. Breese, chemist, 191 Wilmslow Road, Rusholme, said deceased obtained from him a 2-oz. bottle of chlorodyne, which she said she took for diarrhœa and cold, in doses of from 5 to 15 drops. The bottle contained 8 gr. of morphine hydrochloride, 2 dr. of chloroform, and $\frac{1}{2}$ dr. of ether. He saw no reason why he should not serve her. Suicide while of unsound mind was the verdict.

Ammonia from the Grocer's.

At Mossley, near Manchester, on January 19, at an inquest on the body of a widow named Margaret Platt, evidence was given that deceased, who was suffering from depression of spirits, obtained twopennyworth of liquid ammonia from grocer's shop kept by a Mrs. Mayall. This she drank, and died shortly afterwards.

Died at the Chemist's.

On January 18 a woman named Hurst died in the shop of Messrs. Battle, Son & Maltby, chemists and druggists, High Street, Lincoln. The woman entered the shop with her daughter, and, feeling unwell, asked for some peppermint. She became worse, and a doctor was telephoned for, but death occurred before his arrival.

Fire.

A slight outbreak of fire occurred on January 17 on the premises of Mr. A. Stephens, chemist and druggist, Camborne. The fire originated in the storehouse, and the fire-brigade, who were quickly in attendance, succeeded in preventing the spread of the flames to the shop.

Albion Chemical Company.

At the weekly meeting of the London County Council on Tuesday it was agreed, on the recommendation of the Building Act Committee, to sanction the erection of a building on the south side of Riverside Charlton, shown on the plan submitted on behalf of the Albion Chemical Company.

Chemicals by Thousands of Tons.

At the same meeting of the London County Council on Tuesday the Main Drainage Committee submitted a report showing the quantities of crude sewage treated, chemicals used, and sludge sent to sea at each of the outfall-works at Barking and Crossness during the year ended December 31, 1899. At Barking 45,011,527,000 gals. of sewage were treated, 13,584 tons of lime were used, 2,925 tons of sulphate of iron were used, and 1,505,000 tons of sludge were sent to sea. At Crossness 32,668,287,000 gals. of sewage were treated, 7,260 tons of lime were used, 1,993 tons of sulphate of iron were used, and 785,000 tons of sludge were sent to sea. The quantity of sewage treated at both outfalls was an increase of 2,109,547,000 over that of the previous year.

Laudanum Ten Years Old.

At an inquest held at Newbury on January 19, respecting the death of Emma Hill, who died from laudanum-poisoning, it was stated that the bottle containing the poison bore the address of Mr. Geo. Taylor, described as a chemist and druggist, Hungerford, a brother of the deceased. Mr. Taylor stated that he had never supplied any laudanum to his sister, and said that she must have got it ten years ago from his father, the late Mr. Geo. Taylor, who used laudanum to make liniment. The spirit had evaporated, and made the liquid ten times (*sic*) more powerful than in its original state. A verdict of death from an overdose of laudanum was returned.

Bovril for Paupers.

A motion that invalid Bovril should be used in the Exeter Union Infirmary was discussed at the last meeting. Mr. Jarman spoke enthusiastically of the nourishing properties of invalid Bovril, but failed to influence his fellow-guardians, and the motion was lost. It was pointed out that the medical officer had already power to order Bovril if he thought the patients required it.

Sir Michael Foster's Candidature.

At the instance of an influential committee of graduates of London University unconnected with either of the political organisations, Sir Michael Foster has consented to be put in nomination, and will contest the seat at the coming Parliamentary election.

Irish News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Personal.

Mr. Henry Lyons, chemist and druggist, High Street, Omagh, has been elected a Commissioner of the town for the ensuing year.

At the fourteenth annual meeting of the Ulster Amateur Photographic Society, held last week in Belfast, Mr. A. R. Hogg, registered chemist, consented to act as honorary lanternist.

Alleged Theft.

For some time past a number of petty thefts have taken place from the shop of Mr. Thomas O'Sullivan, L.P.S.I., Quay, Waterford. Last week two youths entered the pharmacy and called for a pennyworth of cough-lozenges. Happening to glance in a mirror, Mr. O'Sullivan observed a bottle of perfume being secreted by one of the lads, who, on being charged, admitted the theft, and the bottle of scent was found in his pocket. On searching the residence of the accused upwards of 3*l*. worth of perfumes were found. The case is to come on this week in the police-courts.

What Dispensary-medicines Cost.

The Secretary of the South Dublin Union Dispensary Committee has prepared a synopsis of the number of patients attended to and prescribed for during 1899. The figures, which only represent the four south city dispensaries, are given in detail for each dispensary. The totals are 76,805 patients attended, and 102,623 prescriptions dispensed, at a cost of 282*l*. 8*s*. This is worked out as being 0·873*d*. per patient, or 0·563*d*. per prescription. The cost works out very cheaply considering the number of patients attended to.

Asylum Medicines Cost More.

An abstract of the accounts of the Richmond District Lunatic Asylum, co. Dublin, was issued on January 20. It was prepared by Dr. C. Norman, the resident medical superintendent, and is for the quarter ending March 31, 1899. The expenditure for the three months on medicine and surgical appliances amounted to 340*l*. 10*s*. 10*d*. The number of inmates at the time was 2,056. The item for maintenance and salaries for the same quarter was 14,977*l*. 8*s*. 5*d*.

Post Office Prosecution.

At a special Court of Petty Sessions last week in Magherafelt, the Postmaster-General charged Hugh Gribben, of Magherafelt, son of Mr. Patrick Gribben, chemist and druggist in the town, with having, on December 11, attempted to send a postal packet which enclosed an obscene article. The case, which is the first of its kind ever brought in Ireland, provides for a fine of 10*l*. or a year's imprisonment on conviction. The local postmaster, while standing at the door of his office, saw the accused drop a grey envelope into the letter-box. The letter was unstamped and addressed, and he went inside the office at once and took the letter from amongst the correspondence. The envelope was open, and contained an obscene enclosure. The accused was remanded.

The Waterford Poisoning-case.

An inquest was held at Waterford on January 18 as to the cause of the death of the boy John Dunphy, whose father is in custody on a charge of having poisoned him (*C. & D.*, January 20, page 81). Dr. Edwin Lapper, chemical laboratory, Royal College of Surgeons, Dublin, reported that he had found $\frac{2}{5}$ gr. of strychnine in the stomach of deceased. The medical evidence was then taken, two doctors giving it as their opinion that death was due to strychnine-poisoning, and the jury returned a verdict to that effect.

In reference to the report of the police-court proceedings in last week's *C. & D.*, Mr. A. H. Parker writes to say that Dunphy was not supplied with strychnine on November 8, as he (Mr. Parker) considered the poison was wanted for a malicious purpose.

Scotch News.

Local newspapers containing marked items of news interesting to the trade are always welcomed by the Editor.

Aërated Waters Advancing.

The aërated-water manufacturers of Fife and Kinross have agreed to advance the prices of all aërated waters by 15 per cent. on April 1. The manufacturers state that the advance in prices of materials for production renders the change necessary.

Appointments of Analysts.

A minute of the Health Committee of the Dunoon Town Council recommending the appointment of a public analyst under the Sale of Food and Drugs Act has been approved of.

At a meeting of the Stonehaven Police Commissioners held recently, a letter was read from Mr. Jamieson, analyst, offering his services as analyst to the burgh under the new Food and Drugs Act. The Chairman said Mr. Macdougald, Dundee, was analyst for the county under the Fertilisers Act, and he might offer his services. The best course, he thought, would be to consult with the other burghs and try to get one man appointed for the whole county. The matter was remitted to the Public Health Committee.

Quack-medicine Advertisements.

Councillor Pollard, convener of the Public Health Committee of Edinburgh Town Council, presiding at the annual meeting of subscribers to the Edinburgh Dispensary for Skin-diseases, in the Royal Hotel, Edinburgh, on January 18, said there were advertised daily in the most unlikely places nostrums for the cure of skin and other diseases. It had always seemed to him that there were few more discreditable instances of man's inhumanity to man than the professions made by vendors of various kinds of medicines so-called to heal troubles which they could not possibly alleviate in the least degree. Quack medicines were offered broadcast over the country. Poor people were not merely swindled by them, but in many instances after using these so-called remedies patients were brought to a worse condition than before, and sometimes even their lives were endangered. So-called religious papers and papers which professed to exist for the purpose of promoting the social well-being of the people he found to be serious offenders by the publicity they gave to quack medicines. Some of the medicines offered as priceless were absolutely worthless, and worse than worthless. Pills had been found to be made of ginger, soap, and aloes of the coarsest description. The ginger and aloes were held together by the worst of soap, and out of that concoction was made a box of pills which were said to be a cure for almost every malady that afflicted the human being. It was said that some papers could not live without advertisements of this description, but such papers ought rather to refuse to exist than be the means of not only imposing on people, but helping others to make homicides of themselves. Mr. J. B. Sutherland, S.S.C., endorsed the Chairman's remarks, and the Rev. A. B. Morris said they were not nearly so bad in Edinburgh in regard to the publication of these advertisements as in the large manufacturing towns of England.

Gazette.

Partnerships Dissolved.

Enness, W. F., and **Elders, T.**, under the style of Bell & Co., Bank Buildings, Wandsworth, S.W., chemists.

Holmes, W. H., and **McCallum, A.**, under the style of Holmes, McCallum & Co., Middlesbrough, drysalters.

Williams, H. L., and **Adam, J. L.**, under the style of Williams & Adam, Kensington Square, Kensington, W., general medical practitioners.

Bankruptcies and Failures.

Re B. Wyles, Birkdale, Chemist and Druggist.

In our report of this failure in last week's issue (page 88) we inadvertently described the trustee, Mr. J. E. D. Parker, 10 Victoria Street, Liverpool, as a commission agent. Mr. Parker is a chartered accountant.

Re Allen Percy Nosworthy, 3 St. Leonard's Terrace, Hove, late 37 Preston Street, Brighton, Chemist.

The receiving-order herein was made on June 23, 1899, on the debtor's own petition, and the Official Receiver at Brighton was appointed trustee. He has now realised the estate, and declared a first and final dividend of 4*s.* 3*d.* in the pound. Notice has been given to the creditors that the trustee intends applying to the Board of Trade for his release, and he has issued an estimate of the amount expected to rank for dividend, which is 1,864*l.* 14*s.* 9*d.*, instead of 1,529*l.* 11*s.* The Official Receiver's observations are: The bankrupt sold his Preston Street business about May last, before the receiving-order, and paid the purchase-money into an account at a Brighton bank. At this time his account at the Tunbridge Wells bank was overdrawn to the amount of 433*l.*, of which 300*l.* was guaranteed by a relative. The debtor offered to pay the 300*l.* to such relative, but subsequently agreed to transfer the moneys in his Brighton account to his Tunbridge Wells account, and by this means his relative was relieved from his guarantee. The Official Receiver proposed to take proceedings to recover this amount from the guarantor, but the guarantor refunded the amount to the estate. Creditors can obtain any further information by inquiry at the office of the Official Receiver, 4 Pavilion Buildings, Brighton.

Re John Hornsey, Bourne, Lincs.

This debtor's accounts disclose liabilities 260*l.* 18*s.* 11½*d.*, and assets estimated at 23*l.* 18*s.* 7½*d.* The following are creditors:—

	£	*s.*	*d.*
Butler & Son, Leicester	43	11	3
Hornsey, C., York	50	0	0
Kingston, Wm., Bourne	22	3	10
Oates & Musson, Bourne	15	17	6
Raimes & Co., York...	21	3	10
Robinson, L., Stamford	17	2	10½
Fully-secured Creditor.			
Baxter, J. M., Bourne	30	5	0
Contingent Liabilities.			
Lodge, H., Hastings	32	3	0
Preferential Creditor for Rent.			
Andrews, S. W., Bourne	14	0	0

The public examination was held last week at Peterborough, when it transpired that in 1898 the debtor commenced business on his own account. He admitted that he was not a qualified chemist, but said he ran the risk of a prosecution by the Pharmaceutical Society if they could prove that he had sold poisons. In the result he was allowed to pass this examination.

Re George Jeanes, late 323 Park Road, Liverpool, Chemist and Druggist.

The public examination of this debtor was resumed on January 17 at Liverpool. His statement of affairs was published in our issue of January 13, page 66. Replying to questions put by the Official Receiver debtor said that in 1896 he purchased the business in Park Road, which for some forty years had been carried on by the late Mr. Alpass. The then owner of the business, a Mr. Kennerley, sold it to him for 350*l.* Debtor subsequently spent 500*l.* in further fittings, &c., borrowing 300*l.* on a mortgage reversion belonging to his wife, upon which he paid 7 per cent. interest. For the first year the business was not a success, but he took 1,195*l.* the second year, and over 1,000*l.* the third. This, he admitted, was a pretty good turnover for a chemist's shop. During 1899 bankrupt's affairs became very involved, and two executions were put in. To pay out the latter of which he sold his interest in the shop to Messrs. Ayrton & Saunders who were creditors at the time for 170*l.* His only explanation for making the sale was that he was very much worried, both with his affairs and with the ill-health of himself and his family. He did not know that in a few days afterwards the firm named sold the shop again for 470*l.* Bankrupt asserted his desire to be placed again in the shop, with a view to working it for the benefit of the creditors, hoping thereby, with the aid of financial assistance from his friends, to pay in full. A cash account was ordered, and the examination was adjourned till February 15.

Colonial and Foreign News.

The Technical High School at Charlottenburg has given Prince Henry of Prussia the first degree of Doctor of Engineering.

Co-operative Wholesaling.—The pharmacists of Buda-Pesth have had for some time a co-operative drug-depôt. They are now adding to it a chemical and a pharmaceutical laboratory.

Fire.—A fire in Bahia on December 27 destroyed the four-storey building in Rua do Corpo Santo occupied by the drug-house of Sr. Antonio Agostinho da Silva Lopes. A considerable part of the merchandise was removed.

Credit Association.—Mr. Stefan Lukacs, the editor of *Gyógyszerészi Ertesito*, has drawn up the regulations for a pharmaceutical credit association, whose object will be to lend money at a low rate of interest to pharmacists in need.

Tunisian Olive Oil in France.—A recent decree of the French Government fixes at 10,000,000 litres the quantity of olive oil, and of oil of residuum of olives, produced in Tunis, which is to be admitted into France under special conditions from December 1, 1899, to November 30, 1900.

The Principal German Manufacturers of Cardboard Boxes for pharmaceutical use have sent a circular to every pharmacist, stating that through the want of female workers, increased wages, and shorter hours during the past year, they are compelled to raise the prices for the simpler and cheaper kind of boxes.

Prohibition of Importation of Calcium Carbide into Servia.—The Board of Trade have received notice through the Foreign Office, to the effect that the importation of calcium carbide into Servia has been prohibited on the ground that this preparation is utilised for the manufacture of gas, and that its sale is, consequently, an infringement of the Government's petroleum-monopoly.

Galvanic Apparatus Barred.—The importation into Austria-Hungary of galvanic apparatus purporting to be of hygienic use, to be worn on the human body, as well as so-called galvanic crosses, rings, chains, and belts, has been prohibited by a decree on the ground that the wearing or use of these articles may cause skin-disease and even poisoning. Trade in articles of this description is also forbidden.

Brazilian Import-regulations.—The London Chamber of Commerce recently made representations to the Foreign Office protesting against the regulations of the Brazilian Government prescribing that goods bearing labels in the Portuguese language would after March 1 only be admitted if they are imported from Portugal (see *C. & D.*, December 16, page 975). A telegram has now been received from H.M. Minister at Rio de Janeiro to the effect that the prohibition in question has now been postponed until July 1.

The Tablet-question.—The Committee appointed by the Prussian Chamber of Physicians to study the tablet-question suggests that restrictions should be made for controlling the sale of this form of medicaments. The Chamber adds that tablets are an easy and cheap form of prescribing, and there should be no restrictions as to the contents, but there should be a competent control of the manufactories and their products, regulations as to their being kept in pharmacies, and a strict prohibition of the sale of such as contain poisons except on a prescription.

Japanese Patent Medicines.—Japan has now a patent-medicine law. The seller of a patent medicine is required to send in a detailed account of the use, dose, and contents of each patent medicine he sells, for which he pays 20 yen and an additional 2 yen yearly for each single one. The medicines may not contain any poisons. The permission may be withdrawn if the maker should alter the composition, or if it is proved that the contents are injurious to health. Altering the composition is punished with confiscation and 20 to 50 yen fine, forging the permission 50 to 100 yen, and secretly adding poisons means a fine of 100 to 500 yen. The informer gets half the fine.

Hydrophobia-inoculation.—In the Royal Institute for Infections Diseases in Berlin a special department has been opened for inoculation against hydrophobia. The treatment is by injections, one being given daily for a period of twenty days, or, in bad cases where there are bites in the face, thirty days. No charge is made for the injections, but those who live in the Institute pay 2*s.* a day for a child under 12 years, or 2*s.* 6*d.* over that age, for food and lodging, and the sum of 60*s.* or 75*s.* has to be deposited beforehand. Three months after the treatment the patient must present himself to a doctor, or send in a certificate of his health from a physician to show that the cure is complete.

The Italian Olive-crop of 1899.—The *Reichs-Anzieger* states that the olive-crop of 1899 was extremely poor, especially in the South of Italy and Sicily. In the provinces of Calabria, Catanzaro, Cosenza, and Reggio Calabria the harvest was almost a total failure. In Apulia the crop was so small that the oil-mills had not begun work in the middle of December. The loss in the provinces of Bari and Lecce is estimated at 60,000,000 lire. The failure of the crop, which has caused great distress, especially in Calabria, is generally attributed to the ravages of the olive-fly (*Dacus oleæ*), the extraordinary dryness of the summer and autumn having caused an unexampled increase in the numbers of this pest. The province of Bari has offered a premium of 50,000 lire, and the Italian Government an additional 10,000 lire, for an effectual method of ridding the country of plague. The price of olive oil in Italy was very high, and in the middle of December oil of ordinary quality in the province of Porto Maurizo fetched 110 to 115 lire per 100 kilos., while for the best qualities 175 to 185 lire were obtained. Considerable quantities are, it is said, being imported into Southern Italy from Spain and Tunis.

New German Patent-medicine Law.—The following is a *résumé* of the law now before the German Federal Council for sanction, regulating the sale of patent and secret medicines. These are not (1) substances and preparations contained in and sold under the names given in the German Pharmacopœia; (2) substances recognised by medical science and practice as effecting cures; (3) all substances stated to be disinfectants, perfumes, food and condiments, and all strengthening preparations. The public advertising of secret medicines is prohibited; the bottles or receptacles containing the substance and covers must distinctly show the name of the article, and that of the maker with his address, as well as that of the firm which sells it and the price. It is prohibited to put on the bottles (or to wrap them in papers setting forth) recommendations, certificates, or any mention of cases in which the medicine effects a cure, or has a preventive effect. Any secret medicine which the apotheker is doubtful about being safe to sell may only be given on a doctor's prescription, and in such case the bottle must bear the words "may only be given on a prescription." Secret medicines which are injurious to health, or by means of which swindling is evident, are not allowed. Those considered as such will be named by the respective Governments of each German State.

The Cyanide-of-mercury Poisoning Case is still proceeding in New York (writes a correspondent on January 6), and the public has been treated to learned lectures on handwriting by well-known experts in this somewhat uncertain subject. Words have been dissected and the significance of up-strokes and down-strokes been demonstrated; the prosecution has proved one thing and the defence disproved it. The evidence given by medical men engaged on both sides shows how difficult it is for doctors to agree. On January 4 Mr. Guy Ellison, a pharmacist, furnished the Court with a dramatic sensation. In the course of his evidence he testified to having examined a powder and finding hydrocyanic acid and mercury present. As he said he had some of the powder still in his possession, he was asked to make the same tests again and prove in the presence of the jury the value of his analysis. The powder was passed around to the jurors in order to enable them to detect a feeble odour of prussic acid which was said to cling to it. The jurors took their whiff cautiously, and then Mr. Ellison proceeded with his test and demonstrated to an intensely interested audience that the powder actually contained both hydrocyanic acid and mercury. For the latter he used the familiar and striking iodide-of-potassium reagent, getting the red iodide precipitated. The witness was very nervous, and had a hard matter to hold the test-tube in his trembling hands, but this did not prevent his evidence being the most telling and striking yet produced in this famous poisoning-case.

French News.

(From our Paris Correspondent.)

"SECRET REMEDIES" was the text of a paper read by Professor Bourquelot at the meeting of the Paris Academy of Medicine last week. The subject was treated in an amusing and interesting manner, the author remarking that in spite of the well-known severity of the Academy inventors were by no means discouraged, and he described a number of the preparations sold, out of the multitude of which the Academy has only been able to give its approval to one or two.

LAVOISIER AND PASTEUR MEMORIALS. — M. Berthelot announces that over 500 American chemists have contributed to the subscription-fund opened in the United States towards the Lavoisier monument. A committee has been formed at Strasbourg for the purpose of placing a commemorative plaque on the house in the rue des Veaux of that town, where Pasteur resided in 1853 while he was professor at the Strasbourg Faculty of Sciences. It will bear the effigy of the great French savant, and the inscription 1822–1895.

THE PARIS POSTMEN appear to be engaged in a quiet contest with the Post-office authorities, and for some time past there has been a good deal of irregularity in the delivery of letters. Sometimes the post of the morning will be received at midday, or an occasional letter may turn up a day late. Some months ago the postmen went on strike for twenty-four hours, as a protest against the excessive work imposed upon them. Matters were patched up then, but the men are apparently still dissatisfied. Until a surer state of things prevail it will be a safer course to register letters of special importance for Paris.

THE NEW PHARMACY-LAW.—The Committee of Commerce and Industry of the French Chamber of Deputies has notified that it is prepared to receive written or verbal opinions regarding the proposed pharmacy-law. It will be remembered that the Committee of the Congress of French pharmacists held in 1898, which is closely connected with the General Association of French pharmacists, had undertaken to present the new text of a Bill to the Chamber of Deputies, but they were forestalled by M. Astier, whose project fell like a bolt from the blue, and has been met with strenuous opposition on the part of the General Association.

PARIS PERFUMERS.—Some time ago I referred to the marked tendency of the leading Paris manufacturers of perfumery to open extensive and expensively-decorated shops in the centre of fashionable Paris. The rue Royale and the immediate neighbourhood contain some of the best of these new shops, which are no doubt a good advertisement. The latest business change in the perfumery trade is that of the well-known firm of Pinaud, of which M. Victor Klotz is the present proprietor. This firm for many years occupied a handsome large shop in the boulevard de Strasbourg, but has recently moved its headquarters to magnificent premises in the Place Vendôme, which are fitted up almost regardless of cost.

THE INTERNATIONAL PHARMACY CONGRESS will be held in Paris from Thursday, August 2, to Wednesday, August 8 next, both days inclusive. This Congress will be a continuation of the series of which the last was held at Brussels in 1897. The third section of the Congress will include hygiene, in addition to chemical biology and bacteriology. A proposal by M. Denize that the question of "pharmaceutical specialities from the international point of view" should be discussed by the Congress, has been rejected on the ground that by reason of the difference in the laws regulating patent medicines in various countries, it would be impossible for the delegates to come to any understanding on the subject. M. Denize has also offered to read a paper on the "Influence of Legislation on the Progress of the Pharmaceutical Art." It was decided to inform him that members of the Congress must submit their papers to the Committee beforehand; at the same time it has been decided that any question relative to pharmaceutical specialities, or papers brought forward with a view to bringing up a discussion on that subject by the Congress, will be rejected. The Committee has decided that reports of the various meetings shall be printed before being adopted, and distributed to the members.

MEDICINAL WINES AND THE ALCOHOL HABIT.—Dr. Jacquet has recently given the medical world the result of an inquiry made by him regarding the development of alcoholism in Paris. He has more especially studied its effects as regards the patients of the Paris hospitals, so that he may be said to speak almost entirely of the working-classes. Nearly 5,000 cases were investigated, and the physician's opinion is that about 30 per cent. of the patients were persons who made an excessive use of alcoholic stimulants. In connection with this and the facilities offered for the sale of alcoholic drinks, Dr. Jacquet says that pharmacists are amongst the principal offenders. They have, he says, taken advantage of the prevailing fashion for medicinal wines to press on the public similar preparations of their own manufacture, and frequently induce their customers to purchase such wines, which are strongly alcohol, with a little kola added, and sweetened, in the place of medicines prescribed by doctors. A weak point about this statement is that the class of people amongst whom his investigations have been made usually get their medicines for nothing, or at a very moderate price, and they are certainly not disposed to pay 3f. or 4f. for a bottle of medicinal wine, however plausible a pharmacist might be.

Personalities.

BARON AVEBURY OF AVEBURY, Wilts, is the title which Sir John Lubbock takes on his elevation to the peerage.

IN reference to the deed of arrangement of Mr. W. B. Wride, Romsey, referred to in last week's CHEMIST AND DRUGGIST, Messrs. Wride & Co., wholesale druggists, Southampton, ask us to state that their Romsey branch passed from their possession on June 24, 1898.

MR. CHAS. GERRING, chemist and druggist, prior to leaving Witney to take up business in New Romney, was presented with a secretaire and inkstand by the members of the Athenæum in recognition of twenty years' services as hon. secretary. He also received three volumes of Green's History from the members of the Witney Book Club, of which he was founder and for nine years hon. secretary.

Business Changes.

Notices are inserted free in this section if properly authenticated.

MR. C. GERRING, chemist and druggist, Witney, has purchased the business at High Street, New Romney, lately carried on by Mr. W. G. Wells.

MR. E. THOMAS, chemist, 33 Castle Street, Swansea, has taken over the business formerly carried on by the late Mr. D. Rees at 188 High Street in that town.

MR. A. W. HANKINSON, chemist, Grange-over-Sands and Carnforth, has transferred the Carnforth branch to Mr. J. P. Porteus, who has acted as his manager at Carnforth for several years.

CONSIDERABLE alterations have been completed in Mr. A. W. Hankinson's Grange-over-Sands pharmacy. The shop has been carried back thirty feet, and has been refitted and equipped in an up-to-date manner.

MR. BENSON HARRIES, chemist and druggist, has just moved to his new premises, 84 Commercial Road, Newport-upon-Usk —next door to his old shop. The new premises have been built specially to Mr. Harries' own design, the exterior, of Bath-stone, is built in the Flemish style. The interior, of 4 stories, comprises pharmacy, offices, manufacturing and packing rooms, chemical laboratory and "dark-room," with large cellarage well lighted with electric light; a large warehouse being in process of construction in the rear. Mr. Benson Harries has also taken over another business at 32 Commercial Road, known as the British Supply Stores Company, which he is converting into a drug and general stores.

Our Australian Letter.

The Latest Medical Act.

The Cook Islands, discovered by Captain Cook in 1777, and later the scene of the missionary labours of John Williams, have a Government of their own, which has recently passed a Medical Act which provides that a medical officer shall be appointed to have charge of the Cook Island Hospital, and that no officer shall be placed in medical charge of the hospital unless his name shall first have been placed upon the medical register of New Zealand.

The Number of Chemists in Australia.

A collection of the figures from all the pharmaceutical registers of the five colonies on the continent of Australia shows that there are 1,735 registered chemists to a population of 3½ millions, averaging 2,034 people to each chemist. The latter proportion varied from 2,005 in Victoria to 3,010 in Queensland and 2,486 in South Australia. The larger numbers correspond with a much more scattered population, and consequently a larger sale of poisons and patent and proprietary medicines by the general-store keepers, and by no means indicate that the pharmacists of Queensland and South Australia are better off than in the other colonies. Practically, the position of the pharmacist, socially and financially, is about the same in all the colonies of Australia. Those of New Zealand are said to be rather better off. The statistics for the latter colony are not available, as the register under the new Act has hardly been completed.

The Cuticura Title.

The Potter Drug and Chemical Corporation have been taking action in New South Wales to protect the title of Cuticura soap, and secured an interim injunction against one chemist, restraining him from using the words "Cutis Cure" or "Cut and Cure," or any other colourable imitations of the plaintiffs' title.

An Artist President.

Mr. John White, President of the Pharmacy Board of South Australia, and also the Pharmaceutical Society of the same colony, is a thorough pharmacist, but is now out of business. Being a relative of the discoverer of one of the richest West Australian mines, he has become speedily wealthy, but is an illustration of sudden wealth that has not led to sudden idleness or decay. He is now a real-property holder, a large mining-director, a successful and earnest lay preacher for the Congregational body, and an artist whose pictures are looked upon as among the best produced in Australia. The Society of Arts of the colony is entrusted with a bequest for the purpose of establishing an Australian room in the National Gallery, and each year the best available pictures shown at the Federal Art Exhibitions in Adelaide are selected for purchase. The Vice-President of the Society of Arts, speaking of the choice made this year, said that the first had rested on Mr. John White's "From the Sand Dunes," and added that the work was singularly original, and quite unlike the work of any other Australian artist. Of the two Adelaide pictures chosen last year one was "The Land of the Saltbush," by the same artist.

"Distil your own S.V.R."

A singular privilege accorded to chemists of Tasmania in the early days, when it was Van Diemen's Land and Sir John Franklin its Governor, is that of distilling rectified spirit for the manufacture of their own tinctures. The Collector of Customs looks on this as an anomaly, especially as no similar privilege is enjoyed in any of the other colonies. A question asked in the Tasmanian Parliament during the month brought forward the information that 933 gals. of rectified spirit had been distilled in the colony in the previous year.

The Coupon-system

reached Australia about a year ago. As in other parts of the world, it has excited the ire of traders who do not obtain its benefits, and Bills were introduced simultaneously in the Upper and the Lower Houses of Parliament in Victoria. These were identical in terms, and apparently this method was adopted in order to secure the passage of a measure by some means. The Bill was read a second time in the Upper House, and was handed to a Select Committee for investigation. The Bill in the Lower House was thereupon dropped. The Committee spent eight or ten days in investigation during the month, and its report will be looked for with interest. Some forty-three witnesses were called by the Coupon Company to testify to the advantages of the system; a smaller number was called by the opposing traders, who had clubbed together and employed counsel. But few chemists seem to have been taken with the scheme. One Melbourne chemist in a leading street had issued from three hundred to seven hundred coupons a week, and believed they induced people to pay cash. No other chemist in the same street had the coupons. A leading chemist from Ballarat had tried the coupons for three months, but, beyond bringing a few strangers to his shop, they did him no good. This chemist said that his own business, patent medicines included, yielded an average gross profit of 8*s.* or 9*s.* in the pound. After a good deal of pressure the company interested was induced to declare a balance-sheet. Among the liabilities were included outstanding coupons, reckoned at 16*s.* a thousand, of over 9,478*l.* The goodwill of the business was taken in at 7,500*l.*, and the balance-sheet showed a loss of 2,265*l.* The profit and loss account totalled 9,794*l.* on the debit side, including salaries, 3,610*l.*; advertising, 2,462*l.*; stationery and printing, 948*l.*, &c. On the credit side the items were:—Profit on redemptions, 2,193*l.*; profit on sales, 3*l.*; estimated profit on outstanding coupons (reckoned at 25*s.* a thousand), 5,331*l.*; and balance, loss, 2,265*l.*

Eucalyptus Oil and Eucalyptus Kino.

The proposed Colonial and Indian Addendum to the British Pharmacopœia is still under discussion, the standard for eucalyptus oil and for kino being vigorously debated by Messrs. Baker and Smith, of the Technological Museum, Sydney, on the one hand, and Mr. W. J. Brownscombe, manager for Bosisto & Co., on the other. Messrs. Baker and Smith desire that the description of eucalyptus oil in the B.P. shall be such as will allow the oils of several species of eucalyptus, not hitherto distilled on the large scale, to be admitted, and that the description of the kino shall not exclude many excellent materials not obtained from the usual sources. They point out in a letter in *The Chemist and Druggist of Australasia* that if one mixes 65 per cent. of eucalyptol (sp. gr. 0·927) with 35 per cent. pinene (sp. gr., 0·865), the sp. gr. would not be 0·910, as required by the Pharmacopœia. They have found a natural eucalyptus oil closely approximating to those figures. Taking the whole year round, they would fix a minimum of eucalyptol-content at 48 per cent., rigidly determine (the phosphoric cake being thoroughly dried in the paper) the absence of phellandrene, and a sp. gr. 0·905 to 0·925 at 15° C. They find that the decrease of sp. gr. above that temperature is almost exactly 0·00075 for each degree of temperature.

They recommend that the tests and descriptions of the official kino (pterocarpus) should apply also to eucalyptus kino. Any eucalyptus kino that is friable, almost entirely soluble in water and also in alcohol 90 per cent., is coloured green in very dilute aqueous solution by the addition of 1 drop of ferric-chloride solution, and gives but a small quantity of extract ether in aqueous solution, should be accepted. Mr. Brownscombe desires to limit the kino to that produced by *Eucalyptus rostrata*, and to retain the B.P. eucalyptus-tests, largely on the ground that the mere fact that there are a number of good oils obtainable that will not fully answer the B.P. tests hardly justifies an alteration of the present standard to admit them, for even if made official there is a very remote chance of their being utilised, owing to their limited distribution, comparatively unknown location, and the difficulty of distinguishing them from other species with which they grow.

Patent-medicine Vendor: "You know that Shakespeare says, 'Truth hath a quiet breast.'" Student: "Yes." Patent-medicine Vendor: "Well, Truth always keeps a bottle of my nerve-tonic."

Festivities.

A College Dinner.

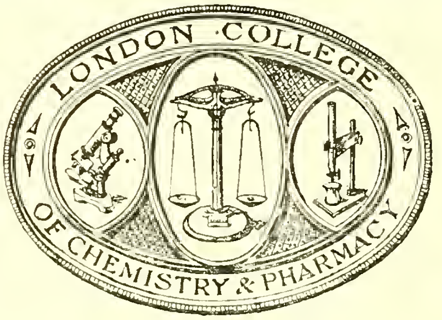
THE Venetian Chamber of the Holborn Restaurant was on Monday evening, January 22, the scene of high revelry on the part of the students of the London College of Chemistry and Pharmacy, under the chairmanship of Mr. T. Skewes-Cox, M.P., J.P. They were the guests of the Principal of the College (Mr. H. Wootton, B.Sc.), and about 150 were present. After an excellent dinner, the Chairman proposed the toast of "The College." In the course of his speech he exemplified the popular ignorance which exists regarding the profession of pharmacy by mentioning that when he told a young friend just before leaving that he was to preside at a pharmacy dinner, his friend fancied that he was going to an agricultural meeting. His own experience of pharmacy was, however, in advance of this, for he had had the pleasure of going over the London College, and found many things there which were interesting, and not a few that he could not understand. To a commercial man the balance-room was the most important of all, and especially so when that little machine enclosed in the glass case could be made to work always on the right side. He saw plenty of chemicals in sealed bottles. He did not suppose that the chemicals were for taking, but he observed that they were generally accompanied by two beakers. What the two beakers were for he was at a loss to understand, unless they might be for drinking Mr. Wootton's health. He had become so well acquainted with pharmacy during recent years that a friend of his said to him a short time ago, "I suppose you take in THE CHEMIST AND DRUGGIST?" He (the Chairman) assured him that was a thing which he had always considered an impossibility; and it was only after it was explained to him that by THE CHEMIST AND DRUGGIST was meant the leading journal of the trade, that he quite understood the mistake he had made. On looking through the students' examination-papers he was surprised to find that amongst the things given were several which called for the analysis "of a given powder which contained two metals and two acid radicles." It had been his habit as a good Conservative for many years to analyse all the "acid radicals" he could come across, and he was glad to think the process was also being carried out in the London College of Pharmacy. He knew that legislation in connection with pharmacy was contemplated, and he considered that it was not right that unqualified men, by forming a limited-liability company, should be able to carry on business in a manner which appeared as if they were qualified. That condition of affairs was a great anomaly, for he and the public generally knew very well how sacred must be the handling of deadly poisons. He felt strongly that the more qualified men there were the better it would be for the country at large, and he felt sure that something would be done very soon in regard to pharmaceutical legislation, and trusted that their hopes would soon be consummated.

THE PRINCIPAL.

Mr. H. Wootton, replying, said that within two months of the opening of the College he had the gratification to be able to announce that every bench was occupied. Since the opening there had been two pharmaceutical examinations, and the College students had beaten the record for percentage passes for many years past. Already thirty-two students had passed. Sports were not neglected. There was a building in course of construction at the College for the storage of bicycles, and the football club was already strong, their team standing second in the Pharmaceutical League.

"The Staff" was proposed by Mr. F. Ashford in a humorous and poetical speech, and was replied to by Mr. W. A. Knight, and Mr. W. J. Fraser toasted "The Students," for whom Mr. W. E. Barker replied in a very nice speech.

The medals and certificates were then presented by the Chairman, after which he toasted "The Medallists." The prize-winners were responded for by Mr. Barnett Abelson, who gained the silver medals in chemistry and physics, botany, and materia medica, and the bronze medal in pharmacy and dispensing. The other medallists were as follows:—



OBVERSE OF THE MEDAL.

Pharmacy and dispensing (Silver medal):—A. R. Bateman.
Chemistry and physics (Bronze medal):—A. Stanley Kent.
Botany (Bronze medals):— O. E. Bennett.
J. Farquhar.
Materia medica (Bronze medal):—E. A. Barton.

In the course of the evening an excellent musical programme was carried out by a quartette party consisting of Mlles. Ethel Allandale and Marjorie Napier, and Messrs. H. G. Pelissier and Lewis Sydney. The entertainment was distinctly novel, the artists being attired in Pierrot costumes and giving quartettes, duets, banjo-solos, and musical sketches one after the other, in a very clever and entertaining manner.

Liverpool Students Sup.

A very successful supper and smoking-concert, promote by the Liverpool Pharmaceutical Students' Society, was held at the Star and Garter Hotel on January 18, the President (Mr. Prosper H. Marsden) officiating as chairman. The loyal and patriotic toasts having been duly honoured, Mr. Edward Davies, F.C.S., in a short but sympathetic speech, proposed "Success to the L.P.S.S.;" which was naturally well received. The other toasts were "The President," proposed by Mr. F. Walker, and "The Principal of the Liverpool School of Pharmacy, Mr. Cowley," proposed by Mr. Marsden. A varied programme of musical items, interspersed with several good recitations, was contributed by Dr. Gill and Messrs. Lee, Harrison, Smith, Stevenson, Nicholson, Irving, Sutton, Kempson, and Bottomley. The general arrangements reflected great credit on the President and Mr. Percy Jenner, by whose exertions the success of the affair was brought about.

Aberdeen School of Pharmacy.

The second annual supper of this School was given on January 19 at the Royal Hotel, Mr. Hugh E. Ellis presiding. The Aberdeen Pharmaceutical Association was represented by Mr. Simpson (President), Mr. Clark (ex-President), and Mr. Cruickshank (Secretary). After the loyal toasts, the toast of "The Aberdeen Pharmaceutical Association" was proposed by the Chairman, who pointed out that it was the oldest body of its kind in the kingdom, and had always done its best for furthering the cause of pharmaceutical education. Mr. Simpson replied. The success of the School was then proposed by Mr. Clark, who said that in point of equipment and the excellence of its teachers it was second to none in the kingdom. Mr. Ellis responded. Other toasts followed, and a most enjoyable evening was brought to a close by the singing of "Auld Lang Syne."

War Notes.

THE VINOLIA SUBSCRIPTION has now reached 4,200 guineas. We have seen a facsimile receipt for this amount, and it is interesting to note that it is printed on a paper representation of the Union Jack, sufficient space being left in the centre of the flag for the receipt proper.

MR. G. LORIMER, junior traveller to Messrs. Lorimer & Co. (Limited), Britannia Row, Islington, sails for South Africa with his regiment (the Honourable Artillery Company) on Saturday. As a "send-off" the town travellers and heads of departments gave a dinner in his honour at the Trocadero this week, and afterwards finished the evening at the Palace Theatre, where seats had been booked.

IMPERIAL YEOMANRY.—Messrs. Barnett & Foster, engineers and soda-water machine makers, Eagle Wharf Road, City Road, N., have given a complete plant, with bottles, syphons, carbonic acid, chemicals, and everything necessary for making mineral waters while the Yeomanry hospital is stationed at Cape Town. The plant is capable of making 350 dozen bottles of aërated water per day. It can be worked either by hand or steam.

THE EAU-DE-COLOGNE FUND already amounts to 70*l.*, and we learn that Messrs. Savory & Moore are making a further shipment to the Cape of 84 cases of this refreshing perfume; 16 cases will go to each of the three general hospitals, and 12 cases each to the three hospital-trains now in South Africa. This makes a total of 166 cases, of six bottles each, already sent out for use amongst the sick and wounded soldiers.—Mr. Frs. Geo. de Faye, chemist and perfume-distiller, Jersey, has also forwarded a case of his eau-de-Cologne.

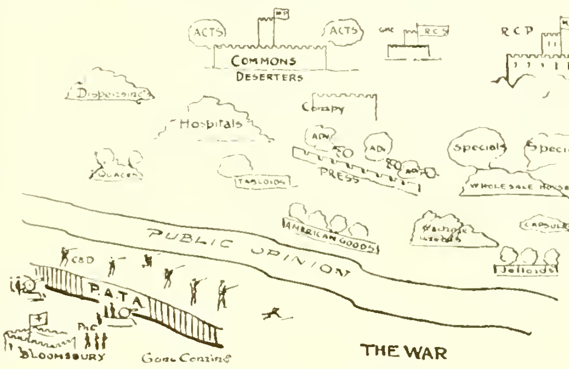
THE TOWN OF CORSHAM, which contains the ancestral home of Lord Methuen, has set up a claim as the birthplace of the wife of General Joubert. A chemist's shop in Corsham High Street was, thirty years ago, occupied by a Mr. Stantial, and it is his sister Rachael who is reported to be Mrs. Joubert, she having emigrated to Pietermaritzburg. The story awaits confirmation from the lady in question, but colour is lent to it by the fact that some of the Stantials of Corsham did emigrate to South Africa, and one of them set up a replica of the Corsham shop-front on his premises in Pietermaritzburg. This was Mr. E. S. T. Stantial, a member of the Natal Pharmaceutical Association, and a subscriber to the *C. & D.* until June, 1898.

ST. JOHN'S AMBULANCE BRIGADE.—A chemist's assistant who volunteered for active service recently, and has been drafted to the ambulance brigade, has fallen on a sunny place in comparison with those who recently went to the front with the field-hospitals of the R.A.M.C. after roughing it at Aldershot. Writing to Mr. S. Parker, chemist, Morecambe, his late employer, after thanking him for various gifts and comforts, he says: "You will see from the heading that I have been made a non-commissioned officer. I rank as staff-sergeant, and have charge, along with a Preston man, of fifty men. I have also got the dispensing, which is an easy job. . . . I have my meals with the other non-commissioned officers; my pay will be 38*s.* 6*d.*, and all rations, which I consider is very nice. I also have the chance of joining the regulars in the same office after the war."

THE BULAWAYO WAY.—In a note on page 172 we refer to the position of Bulawayo pharmacists in regard to the war. We have since received from Mr. John C. Hewlett, F.C.S., Charlotte Street, E.C., the following extract from a letter dated "Bulawayo, November 26, 1899," written by Mr. L. F. Moore, President of the Rhodesian Pharmaceutical Society:—

> In common with nearly all the other principals I joined the Reserve Force, and it has just been called on for active service. Our employés joined the Volunteers, the last contingent of which leaves for the front to-morrow morning. All the police have gone already, and it is rumoured that the band, who have been drilled to man our last seven-pounder, go down with the force to Mangwe Pass to-morrow. The Reserve Force will go to the Camp, and I think it probable that martial law will be proclaimed next day. We are still far from played out. We have as yet drawn no men either from the mines or from the other towns, but have sent about 1,200 to the front, and could manage another 1,000. Business has been patchy, but on the whole above the average. Necessities have become very dear, potatoes, for instance, costing 1*s.* 6*d.* per lb., but of course prices have been put up all round.

BEFORE BULLER CROSSED THE TUGELA, Mr. J. H. Jessop, chemist, Oxford, dreamed this dream:—



COMPOUNDERS AT SEA.—We have received another letter from a compounder, posted from Madeira. The letter resembles in some particulars the one published last week. Our correspondent says:—"As we have already 60 on the sick-list I am more than busy: can scarcely snatch ten minutes for a smoke on deck. There are 1,500 troops on board. The first night I slung up my hammock and slept with the other Tommies, but now I have a snug little bunk in the dispensary, and am getting on A1. Most of the soldiers have bad colds. I hope they will get better as warmer weather comes, as I can scarcely keep pace with the demands. The consultations are amusing, generally brief. The men are lined up. The sergeant calls out the names one by one; the doctor questions them, and dictates his 'scrip' to me. All dressings I have to do in my dispensary, also lancing gathered fingers and cauterising sores. Tommy does not need to be made of milk and water. Food on board is good. The troops seem pleased with fresh roast meat every day, plenty of bread, jam, and porridge. Butter and luxuries can be bought. The tea is atrocious stuff—warm and moist is all you can call it. The 1,500 Thomas Atkinses on board are for the present compulsory teetotalers, no liquors being obtainable on the ship. Service was held on deck this morning, the band playing the hymns. I could not attend, as I was on duty."

THE MORNING OF THE MARCH.—Mr Alfred Salinger, a representative of Vinolia (Limited), who has gone out with the City Imperial Volunteers writes to us from the s.s. *Briton* on Monday, January 15, regarding his experience on the night of January 12, when the contingent worshipped in St. Paul's and supped with the Benchers of the Temple. He then goes on to say—"We bivouacked on the floor at Bunhill Row and got a few hours' sleep till reveille at 4.30 A.M. We breakfasted at 6, and formed up afterwards, leaving the Drill Hall at 7 A.M. precisely; then commenced the most awful struggle to get through the crowd that you can imagine. It will give you an idea of what it was like if I tell you that our programme was timed for arrival at Nine Elms at 8.10 A.M., thus giving seventy minutes to march about three and a half miles. We arrived there about 10.15 A.M., two hours behind time, with our equipment in many cases torn off our backs, spurs broken, haversacks torn, and thoroughly done up. I can only compare it with a three hours' fierce football-scrimmage to get through the crowd, and I think the police-arrangements in the City were quite inefficient. A few of the poor men were cut off from the column by the crowd, and arrived at Nine Elms station in cabs. We had a good journey to Southampton, and embarked without delay, and left about 5 P.M. Our quarters are the same as those of ordinary troops, being on the main deck. The food is very plain, but wholesome, and as soon as the men are all recovered from the first few days' inevitable seasickness all will go merrily enough. We sleep in hammocks, and do all the mess-work ourselves except the actual cooking. Guard is mounted at the top and bottom of the companion-way to prevent smoking 'tween decks and other irregularities."

Winter Session.

Notices of meetings to be held are inserted under "Coming Events." If meetings are not attended by reporters, secretaries of associations would oblige by communicating with the Editor.

Royal Institution.

On January 19 the first Friday evening discourse of the session took place at the Royal Institution. The Duke of Northumberland was in the chair, and among others present were Lord Kelvin, Sir Frederick Bramwell, Sir James Crichton Browne, Sir William Crookes, Professor Dewar, and Professor Silvanus Thompson. The lecture was by Lord Rayleigh on

Flight.

The subject was divided into two parts—artificial and natural. Lord Rayleigh said most healthy boys at one time in their career did some kite-flying; he did so years ago, and had lately taken it up again. He then went on to speak of the two kinds of kites. The Malay kite is the ordinary one, without a tail, and the lecturer remarked no self-respecting kite-flyer uses a tail now, as it impedes the flight of the kite, but the better kind of kite is one invented by an Australian named Hargreaves. This kind is like a flat box with open ends, being made of a slight frame-work covered with calico. Actual kites were suspended in the theatre in approximately the positions they occupy when in use. Frankland's electrical experiments with kites were recalled, and mention made of the uses of kites in meteorological observations for taking the temperature of the upper regions. Colonel Baden-Powell, whose name was received with enthusiasm, was, the lecturer said, an investigator of the subject of kite-flying. His military kites had reached a stage at which they were strong enough to lift a man from the ground. The problems of kite-flying and of flight were similar; both depended upon the action of wind on an aëroplane or inclined plane; kites, however, being anchored to the ground, were not in some respects to be compared with the action of the wind on birds.

Birds maintained themselves in the air by means of flapping their wings, an action which necessitated much mechanical work. A uniform wind was of little use to a bird; it was necessary that there should be a horizontal wind with, so to speak, a vertical component. Birds frequently took advantage of rising currents of air in which they could maintain themselves with very little effort. Pressure and suction of the wind were important factors in the flight of birds. Langley, of Washington, in a paper on the internal work of the wind, showed that what he called the "inherent gustiness" of the wind—that is, the different speeds at which the wind blows at different levels—was also of great importance in the flight of birds.

Turning then to the question of artificial flight, experiments with flying-machines prove that the higher the speed at which an aëroplane is driven through the air, the less is the effort required for maintenance. Wenham, it was stated, has proved that it is not possible for a man to work a screw sufficiently fast to be able to raise himself from the ground, so that some form of machinery must be used. Although Nature did not furnish examples of revolving mechanism, which possibly would be difficult to lubricate, there was no doubt that the revolving principle was the most suitable for artificial aërial navigation.

Photographs were then shown of Maxim's and other flying-machines, and Lord Rayleigh described the sensation of a ride on Maxim's machine as like being on the back of a very large insect and not feeling particularly safe. Mr. Maxim assured the lecturer that the solution of the problem was merely a question of money, but he warned the audience that after all it would not be a very safe method of travelling—and of no use for a lady who required to go up to London for an hour or two's shopping. Alighting was very difficult—they saw that in the case of birds, who were frequently turned upside down, but, of course, soon righted themselves. With a flying-machine the results would possibly be more disastrous. (Laughter.)

The exhibits in the library consisted of models of flying-machines and electrical apparatus, the latter including the monster Spottiswoode coil.

The Optical Society.

A Meeting of the Society was held on January 18 at the City and Guilds of London Institute, E.C. Mr. W. H. E. Thornthwaite (the President) was in the chair. It was announced that Mr. W. S. Baxter, Bramley, had given a copy of Donders' "Refraction" to the library, and other business of a formal nature took place. Professor Silvanus P. Thompson then gave a lecture on the

Aberrations of Lenses,

illustrating his remarks by many beautiful experiments, the resources of the Institute being sufficient to provide a series of demonstrations which can only as a rule be learned from text-books. The subject was divided into sections, aberrations due to material being first taken. Glass retards light that passes through it, but does not retard all the constituents equally, giving the defect known as chromatic aberration, which shows itself in images with coloured margins. All glass crowds up the red end of the spectrum, but all kinds of glass do not crowd up to the same extent, hence a combination of crown and flint glass gives "achromatic lenses," as they are called. In these lenses the defect is only partly corrected, a residual colour-error remaining. Some of the newer kinds of glass compensate to a greater degree, but in no lens is the defect absolutely overcome. A faint colour-tinge or secondary spectrum in images of minute bright objects is often seen, especially in telescopes. Streakiness and double refraction, the latter in lenses of crystal wrongly cut as regards the axes, are errors which are sometimes found and cannot be corrected. Chromatic aberration can be partially remedied by diaphragms and a secondary spectrum annulled by mixing the kinds of glass. In errors due to the form of a lens the chief are those due to cylindricity, spherical aberrations, curvature of the focal plane and distortion of images in its plane. Cylindricity, an error which makes a lens astigmatic, is not found in photographic lenses, but is intentionally brought about in cylindrical spectacle-lenses. As to spherical aberrations, an error due to the lens being truly spherical, the lecturer referred to Seidel's theory, in which five kinds of spherical aberrations were possible, making in all eight different conditions of the defect. To obviate these eight conditions it is necessary to have eight varying qualities, but in lenses of two glasses there are only seven of these possible—two materials, four surfaces, and varying the distance between the lenses. In the Cooke-Taylor lenses three glasses are used, and thus, with the six surfaces, two materials, and two distances, almost perfect correction of spherical aberration is possible. A partial remedy is found in stopping down, but where the caustic curve is bad the curves of the glass need recalculating, so that the work of refracting shall be equally shared by the various surfaces. Curvature of the focal plane, where images at the centre and margin are in focus at different distances, is remedied by varying the combinations of the lenses. Distortions of the image when barrel-shaped or pincushion images are obtained are due to badly designed combinations, but can sometimes be improved by the use of a shifting stop. Diffractional aberration, an error due to the size of the aperture, and which shows itself in the form of spurious discs to stars or faint systems of rings round stars, is a defect due to the differing wave-lengths of light, and cannot be got rid of. Defects in mounting, obliquity or decentring, are corrected, the first by setting the lens straight in its mount, and the latter, indicating a badly cut or mounted lens, by recutting. Flare spot, due to internal reflection, the final aberration dealt with, and which shows itself in a flare intruding across the middle of the field, implies a badly-adjusted combination, and may sometimes be obviated by altering the distance between the component lenses.

A hearty vote of thanks was accorded to the lecturer.

Glasgow Chemists' and Druggists' Assistants' and Apprentices' Association.

At the weekly meeting held on January 19, Mr. J. P. Gilmour (President) in the chair, Dr. Devon, surgeon to H.M. Prison, Glasgow, gave an address on

THE HABITUAL OFFENDER.

He said he need not remind his hearers that the problem of the habitual offender was one that had long engaged the attention of penalogists, but, so far, to small purpose. The habitual offender had been the object of a Parliamentary Commission, which led to the passing of the Habitual Offenders Act, a measure excellent in intention, but weak and inert in structure. It provided that the persistent offender should after the fourth conviction be sent to an adult reformatory for three years, but left it to the option of municipalities and voluntary charities to build and endow such establishments, so that the Act was practically inoperative. The habitual offender was consequently as rampant as ever, and as a public moral nuisance was set loose to corrupt the young, and create scenes on the streets of the great Scottish cities, especially Glasgow, which were unequalled for obscenity and infamy in any part of the civilised world.

The habitual offender, as far as women were concerned, was invariably a prostitute, and the hope of restoring many of these human wrecks to a seaworthy state might seem very remote, but there were always a few who were reclaimable, and whose social salvation would repay any amount of effort. In any event, the seclusion of inveterate offenders would have a great sanitary and moral value. In reply to a question from the CHAIRMAN, Dr. Devon signified his approval of the American system of sentences of indefinite duration, but he deprecated the coddling of prisoners and the making of prison-life too attractive, as at Elmira. Dr. Devon was given a cordial vote of thanks for his address, and the meeting closed.

Chemists' Assistants' Union.

THE meeting of the Union at the Horse Shoe Hotel, Tottenham Court Road, on January 23, although meagre in numbers, was not lacking either in eloquence or enthusiasm.

The PRESIDENT (Mr. E. Whincray), in reviewing the work of the past year, referred, amongst other things, to the resolution sent by the Union to the General Medical Council regarding the practice of the prescribing of specialities by physicians. That resolution, he said, did not seem to please some people—the most important person, perhaps, being "Mr. Xrayser"—but he (the speaker) thought on that occasion "Xrayser's" apparatus was a little bit out of order. The Union had been of practical value to the Pharmaceutical Society by calling the attention of the Secretary to some irregularities in the sale of poisons in oil-shops and similar places, and had been of use to the trade at large by supplying employers with suitable assistants. With regard to the company-question, he could not do better than refer all members to that excellent editorial in last week's *C. & D.* entitled "Deadlock," and to the speech of Mr. Glyn-Jones at Blackburn. Financially, he was pleased to report a small balance on the right side, and concluded by saying that he hoped to again nominate Mr. Wright as a candidate for the Pharmaceutical Council.

Mr. PICKERING followed, and in the course of a thoughtful speech recapitulated the arguments for the need of the Union. It would, he said, be of immeasurable benefit to young men in helping them to get suitable berths. He suggested a registration fee of 1*s*., or an annual fee of 5*s*. inclusive, he denied that the Union was merely a pot-house club. There was no drinking at any of their meetings, and he did not know a more disinterested set of young men than the present Council of the Union. They were there, he said, for the grave business of life, and to try to help their fellow men. Speaking of the details of the Union, he thought its work should be restricted entirely to trade matters, and if they could increase the sociability of apathetic chemists' assistants they would likewise be doing good to the community. Mr. Pickering then proceeded to throw out various suggestions in regard to what assistants may do, and in the course of his remarks expressed the opinion that it would be better if the Pharmaceutical Society would in some way make it a condition, in granting the qualifying-certificate, that no assistant should accept employment with an unqualified company.

Mr. LLOYD thought Mr. Pickering's suggestion of a 1*s*. registration-fee was a good idea, as it would make for a large membership. He was not pleased with the progress made by the Union, but thought that by hammering away and showing the public that they had no selfish views they would yet become a strong combination for the good of their fellow-men. The question of "What constituted a reference?" troubled him. Should a three-months' engagement be considered sufficient time on which to base a reference?

Mr. GREATREX (Liverpool), on being called upon, complained that the Union had been very poorly represented in Liverpool and various other provincial centres. He had written to a local secretary for prospectus and papers relating to the Union, and had received no reply. Mr. Greatrex did not mince his words, and the proceedings were lively for a few minutes, but he was ultimately told by the CHAIRMAN that if he failed to obtain satisfaction from the local men he should have written to the *C. & D.*, which was always willing to take up the grievances of anyone in the trade. He thought the Union would be of immense benefit to young men wanting good situations. When he came to London first he was with a man who discharged him without notice after a fortnight's service. He knew he was not at fault, and he found his employer had had twenty assistants in six months. It seemed to him afterwards that the fellow must have had a standing advertisement in THE CHEMIST AND DRUGGIST. (Laughter.)

The CHAIRMAN told Mr. Greatrex he ought to have noticed the advertisement if he looked over his *C. & D.* carefully, and upon Mr. Greatrex's admission that he did not at that time read the *C. & D.* he was greeted with much laughter, and cries of "Ah! there you are, you see."

Continuing, Mr. GREATREX said the "pot-house club" idea was certainly prevalent amongst chemists' assistants, and he was agreeably surprised to find that the reality, as evidenced that night, was so different.

After a few words from Mr. ANDERSON,

Mr. WRIGHT continued the talk, saying that he had a decided objection to the kind of experience gained at smart stores, which was of no real value except to show the kind of thing that was done in the enemy's camp. He also was of opinion that it was incumbent upon all members to look after their own and the Society's interests by reporting flagrant irregularities in the conduct of business. Thereupon, Mr. GREATREX, interposing, cited a case which had come to his knowledge in which the attention of the Society had been called to a case of keeping open shop by an unqualified company, and no steps had been taken on the plea "that the qualified manager, who was engaged at another of the company's branches, and who visited the branch stated at certain hours of the day, might be there when their inspector called." "In that case," said Mr. WRIGHT, "you should have demanded that the thing be properly looked into." "And we should have had to take out a mandamus to make the Society move," replied Mr. GREATREX, amid much laughter.

Mr. GLYN-JONES, in the course of a few remarks on the invitation of the Chairman, deprecated the 1*s*. subscription idea. It should be at least 5*s*., and for that they must be prepared to offer members some real and substantial benefits. Before putting any member's name on their register they should insist on having distinct proof from his employers of having served a proper apprenticeship. Then, after each situation had been given up, a reference should be obtained from his employer, so that a man's history could be placed before a prospective employer at a moment's notice. It would also be advisable, he thought, to have two or three papers read at their meetings during the year. Papers on such subjects as "Dressing shop-windows," "How to treat customers," or "How to put up a proprietary article" would be useful. Speaking of pharmaceutical legislation, he was convinced that in the 1868 Act there were latent powers not yet enforced which would settle company-pharmacy for good. The Union had done good already in interesting assistants in the Council elections, and he thought it was capable of doing much more. He thought the idea that assistants had to go to company-stores to learn their business was entirely erroneous. He knew dozens of legitimate pharmacists of the present day who could give points in business aptitude to any of the company-trading concerns.

Thanks to Mr. Glyn-Jones concluded the business.

Diary Postcard-competition.

The Home Voting.

The response by home subscribers to the offer which we made through the coupons enclosed with each copy of The Chemists' and Druggists' Diary, 1900, has this year shown a largely increased interest in the competition. The first question on the card was—"What is

THE BEST SPECIALITY TITLE

mentioned in the Diary advertisements?" There appears to have been little doubt about this, "Daisy" leading far ahead of the next one, "Tabloid." The following are the articles which obtained double figures in the voting:—

Daisy	98	Sparklets	23
Tabloid	39	Fly-cemetery	14
Oil of the Night	37	Flyodoomo	14
Lanoline	28		

This first question was on old lines, but the second one was quite novel, and its object was to bring out the feeling in regard to

PHARMACEUTICAL ASSOCIATIONS AND SOCIETIES

mentioned in the list on pages 296 and 297 of the Diary. There nearly one hundred different bodies are mentioned, and the question which we asked a decisive answer to was—"What Association or Society has your greatest sympathy?" The Proprietary Articles Trade Association has obtained a very decisive lead here, and only three other bodies get double figures. These are—

P.A.T.A.	143
Pharmaceutical Society of Great Britain ...	96
Chemists' Assistants' Association	32
Wholesale Druggists' Cricket League	10

Votes were also cast for twenty-six other associations and societies, and it is a notable fact that the Natal Pharmaceutical Society has at least six sympathisers at home. We are sure that Mr. Champion, the President of that Society, and his fellow members will appreciate this expression of sympathy with them in what must be exceedingly troublesome times for them. The Cape Pharmaceutical Society also receives a few votes from home subscribers.

The next question brought us a protest from a provincial chemist in England, who said it was not quite fair. The question required voters to select from the "Buyers' Guide," pages 195–208,

THE ARTICLE MOST PRESCRIBED

in the district of the voter. The objecting subscriber informed us that he had not seen a prescription by a local doctor for five years, as each doctor did his own dispensing. This was an objection which could not be provided for. The vote on this occasion differs from most of the same kind which have been the subject of pharmaceutical comment during the past fifteen years, owing to the fact that we confined it to the articles named in the "Buyers' Guide." As many proprietary preparations are thus included we got an idea of present-day prescribing differing from the one which we published in 1886, and from Mr. Martindale's analysis of a few years ago. Our vote comes out as follows so far as the leading articles are concerned:—

Tabloid preparations ...	54	Spt. ammon. arom. ...	25
Sodii bicarb.	33	Quininæ sulphas	14
Fellows's syrup	29	Tr. nucis vom.	13
Kepler preparations ...	26	Magnesii sulphas	11

Besides these, twenty-five other preparations are mentioned half of them proprietaries. Of course, it will be understood that these are said by the voters to be the most prescribed articles in their neighbourhoods; thus the results are not quite comparable with those already mentioned in which analysis of actual prescriptions, rather than the experience and opinion of the voter, was the basis of the results. As Mr. Martindale's list does not include proprietary preparations, we revert to our own, published in The Chemist and Druggist, April 24, 1886. The following are the six official and the six proprietary medicines then most frequently prescribed, the figures referring to the times they occurred in 10,000 prescriptions:—

Official.		*Proprietary.*	
Spiritus chloroformi ...	853	Vaseline	143
Potassii bromidum ...	717	Chlorodyne	97
Vinum ipecacuanhæ ...	696	Nepenthe	76
Spiritus ammoniæ aromaticus	566	Fellows's syrup	63
Quininæ sulphas	563	Benger's liquor pepticus	40
Sodæ bicarbonatis ...	555	Liquor carbonis detergens	23

There has thus been very decided shifting during the fourteen years that have elapsed, but it would be interesting to note how far an analysis of prescriptions would bear out the Diary vote. If each of those who participated in this competition would examine the first score of prescriptions they receive, and send us the notes of the analysis on postcards, we would be obliged.

THE BEST ADVERTISEMENT IN THE DIARY

was the subject of the fourth vote. This looks a very easy one. The actual results have come out as follows:—

Burroughs, Wellcome & Co.	180	Day's Oil of the Night ...	12
G. Treble & Sons ...	46	Stevenson & Howell ...	11
Daisy	40	Allen & Hanburys (Limited)	10

This vote is an excellent indication of the advisability of illustrating advertisements, but it also proves the immense utility of such an advertisement as that of Messrs. Burroughs, Wellcome & Co.'s, which is almost wholly devoted to an illustrated price-list of their manufactures. Messrs. Treble's advertisement on pages 50 and 51 owes its distinction to the illustrations embodied in it, particularly, we fancy, the one on page 51, in which the apothecary's apprentice recommends his governor to overcome bad trade by modernising his shop a bit. Each of the other advertisements mentioned has some point of distinction which has arrested the attention of readers, and thus the first essential of advertising has been secured.

SIDE-LINES,

as stated in the Editorial Note in the Diary, are now of immense importance to all connected with retail pharmacy, and we therefore asked voters to tell us what side-line advertised in the Diary they liked best. "Daisy" is the first proprietary medicinal article that we know of which has ever been elevated to the distinction of a side-line. The following is the double-figured vote:—

Photography	178	Camwal waters	16
Spectacle-trade	38	Manufacture of aërated waters	12
Daisy	34		

The sixth and last question was—"Which is

THE BEST-DESIGNED ADVERTISEMENT

in the Diary?" Messrs. Stevenson & Howell's oranges and lemons again lead the way, and the votes are otherwise fairly distributed, those receiving ten or more votes being as follows:—

Stevenson & Howell (Limited) (pp. 8–9) ...	90	Day's Oil of the Night (p. 67)	33
Burroughs, Wellcome & Co. (pp. 152–254) ...	80	W. J. Bush & Co. (Limited) (p. 475)	14
G. Treble & Son (pp. 50–51)...	33	Kepler (p. 234)	10

Space does not permit our going into fuller details regarding the voting, but we should like to give our old friend Mr. W. Bostock (Ashton-under-Lyne) a niche in the record. He wrote from Colwyn Bay on Boxing Day in the following strain:—

> Dear Mr. Editor,—Our Brother Lloyd once more
> Kindly lent me his Diary to explore;
> His thoughtfulness quite cheered this heart of mine,
> For ours had gone to Ashton-under-Lyne.
> Over six hundred pages to review
> Is no small task to have been set by you!
> Still, we commenced the duty to fulfil,
> *Nil desperandum* is our motto still.
> Six questions—each requiring studious care—
> Took several nights the answers to prepare.
> We murmur not—nay, we rejoice to find
> Good exercise for eyes and head and mind.
> Your Diary—printed with artistic skill—
> Inspires delight and admiration still.
> May the "New Century" bring joy and peace,
> And your subscribers constantly increase.

AWARD OF PRIZES.

We have usually awarded our prizes according to the general vote. Each card is scrutinised, in order to see how many of the articles which have been voted to the highest position in each section are named on the cards. It is astonishing how many of the voters do not name a single one of the favourites. We have not counted the cards in which none are correctly named, nor those who have succeeded in naming one, as they are so very numerous. We find that 96 have placed two correctly, another 92 placed three, and 36 placed four, while 10 have placed five correctly, and 1 only has named the whole six.

THE FIRST PRIZE OF 4*l.* 4*s.*

is accordingly awarded to Mr. H. C. Rowe, L.P.S.I., Arklow, Ireland.

TEN SECOND PRIZES OF 7*s.* 6*d.* EACH

are awarded to Messrs. E. G. Perfect, Harlesden; H. G. Adams, 31 St. Michael's Road, Bedford; A. H. Molson, Spalding; H. J. Harper, 39 Camden Street, University Road, Belfast; W. Lloyd Smith, 2 The Avenue, Carmarthen; H. W. G. Morris, Thame, Oxon; George Jones, 71 Lavender Hill, S.W.; J. G. Nicholson, 7 Hanover Street, Edinburgh; T. Postlethwaite, 131 Fawcett Road, Southsea; Llewellyn Williams, New Buckenham, Attleborough. Norfolk.

The remainder of the ten guineas we reserve for the colonial and foreign competitors, according to our custom, and the result of that part of the competition will be duly announced.

Martial Poetry.

Postcard Competition.

As a result of our offer of a prize of one guinea for the best verses on Volunteer Army compounders, we have been deluged with a flood of patriotic verses of a more or less rhythmical description. We select a first instalment of the best:—

CHEMISTS TO THE FRONT.

Full forty men of "Minor" fame have left their native shore
To tend the warriors in the game of Britain and the Bore (Boer).
A brace of pistols in their belts, and measure-glass in hand,
They follow soldiers o'er the veldts. In gold and diamond land
Our brother pill will get his fill of roughing it, I ween,
But lend a hand to those that stand to serve our noble Queen.
The night is dark, there is an arc of light in yonder tent,
And there you see the Pharmacie on 'spensing work intent.
Full many a bloody warrior there lies gasping for his breath,
And druggist-man so spick and span looks forward to his death;
But yet he tries to soothe the brave with inject. morph. galore,
And does his best their lives to save, so diff'rent from the Bore.
The brave pill-punchers at the front get 3*s.* 6*d.* a day,
But, chemists, fork your money out and give them better pay.
Taliesin, Llandudno.

Chorus—*Tune*, "Tommy Atkins."

Oh! Volunteer compounder, you're a patriotic "mug,"
To give up an easy billet just to polish off old Krug.;
But some day you'll homeward voyage, then our hero you will be,
With a medal on your waistcoat and, quite likely, a V.C.
T. Postlethwaite, Southsea.

When England calls, her sons obey;
'Tis hers, not theirs, to choose the way
And when her martial trump is blown
Not to the stricken field alone
She calls them. Hospital and camp
Have heroes too of different stamp,
Surgeon and nurse and pharmacist.
The healing hand, the mailed fist,
In loyal service equal shine,
Till war itself is made divine
By pity tempering wrath and hate.
Shall we, then, points of rank debate
When England calls?
Sub Influenza Scribo.

Said that patriotic band, "We will cut a figure grand
And in khaki, made to measure, we'll monopolise the Strand."
But it was a trifle rough, for a gent. in spotless cuff,
To make in draughty barrack-room a bed from "biscuits" tough;
Yet there may be berths "indoor" worse than dodging Mausered Boer,
Though it is a rather hot shop where Herr Maxim sweeps the floor.
So good fortune to them all, and of loot a goodly haul;
And I hope they'll save for Mr. Holmes a chunk or two of Paul.
D. Gordon, Liverpool.

What ho! ye knights of the mortar and pestle,
Hear ye the call?
Forty men for the front! with disease to wrestle—
Perchance to fall
By the hand of the foe, in battle's dread hour.
When danger is nigh,
Who is ready to save? Who is ready to succour?
Who is ready to die?

Were Galen's young sons ever lacking in courage?
At England's request
A thousand spring forward and offer their knowledge
To aid the distressed.
To toil for the sake of the wounded and dying
On Afric's hot shore.
Ever ready to help, whether he that is lying
Be Briton or Boer.
H. W. Williams, Letterston

I.

Oh! here's a pretty state of things!
An M.P.S. am I,
And what's the first the New Year brings?
A suit of—well, khaki!

II.

Why is it that I'm thus attired—
How was it brought about?
The doctors in the South had wired
"We want dispensers out."

III.

At duty's call I volunteered,
I made my application,
And out of hundreds that appeared
Was one of forty taken.

IV.

And now we're going through our drill
With right about, left wheel,
But we'd prefer to mass a pill
Without the aid of "steel."

V.

When war is o'er I leave the ranks,
Keep open shop, I ween;
And 'neath my name I'll fill the blanks
With "Chemist to the Queen."
Hoplemuroma, Limerick.

Bards have sung, and ancient lyrics
Have extolled the praise of those
Who, for home and Queen and country,
Have gone forth to fight their foes.

Now let patriotic Britons
Raise the song and swell the chord
Of these willing volunteers
For the hospitals abroad.

Brave the danger, England's heroes,
Brave the danger, one and all;
Always for your work be ready,
Always ready for the call.

Never was the sword uplifted
In a more deserving cause,
For the maintenance of justice
And the right of English laws.
Helen Miller, Wednesfield.

Some talk of Alexander, and some of Hercules,
And some of Major Marchand, and little men like these,
But when the real man's wanted, the Government they send
To despised dispensing chemists—the wounded to befriend.

They only wanted forty, and the word was passed along
At the time our native country was full of warlike song;
And a thousand of them offered to leave their kith and kind
For the honour of Old England and the welfare of mankind.
C. E. Goodliffe, Bishop's Waltham.

[*More of these in a future issue.*]

The B.P. as a Standard.

Owing to the present feeling of uncertainty regarding the position of the British Pharmacopœia as a standard for the sale of medicinal articles mentioned therein, we asked Dr. John Attfield, F.R.S., to give us an expression of his opinion on the subject as a guide to pharmacists. He gives us permission to publish the appended reply.

Watford, January 22, 1900.

DEAR SIR,—In reply to your request of January 20, I regret that my engagements just now leave me no time for writing an article for THE CHEMIST AND DRUGGIST "On the Applicability of the British Pharmacopœia to the Retail Sales of Drugs." In fact, I am so much occupied in correspondence with various persons in nearly every one of our seventy British dependencies respecting the forthcoming Indian and Colonial Addendum that even the congenial task of writing annual reports relating to the Pharmacopœia has had to be suspended.

It is polite of you to say that anything I might write "would be of immense value to the retail trade." I do not agree with you, for the following, if not for other, reasons. Not only would the article demand more time than I now have to spare, but at present I have no clear lead on the subject to offer to my old students and friends in pharmacy.

It is true that I have, as you intimate, already written several articles "On the Pharmacopœia as a Standard of Strength or Potency for Household Remedies." They will be found in my "Nine Annual Reports (1886 to 1894) on the Progress of Pharmacy in its Relation to the Revision of the British Pharmacopœia of 1885," of which copies have been presented by the Medical Council to the libraries and journals of medicine and pharmacy from year to year.

In these articles I have never done much more than reflect the published views of others, which are, first, that the welfare of the community—the welfare for which doctors and druggists carry on their avocations—must be paramount; secondly, that as regards the action of drugs on the healthy and the unhealthy—that is to say, in all matters pharmacological and therapeutical—medical practitioners must be the judges; thirdly, that in all matters appertaining to pharmacy the judgments of pharmacists must be considered

The advance of knowledge, too, must have its proper influence and consequences. The sale under the name "sweet spirit of nitre" of a weakly nitrous spirit could rightly be defended prior to December, 1898. But after the publication of the researches of Leech and Brunton it was only a question of time as to when that name should become an official synonym of "spirit of nitrous ether," and the sale of the weak spirit be abandoned.

The tendency of officials under the Sale of Food and Drugs Acts, including magistrates, to regard the Pharmacopœia not merely as affording contributory evidence respecting the fair strength or potency of drugs sold otherwise than under medical prescription, but as affording actual standards for the purposes of the Acts, was met in 1875 by the formation of a Defence Association. After some thirty or forty cases had been rightly, justly, and successfully defended, vexatious prosecutions became things of the past. The Association also then apparently became a thing of the past! Cannot it be resuscitated? Or must the power of pharmacists to combine in most righteous self-defence remain inferior to the power of artisans to combine for securing a bigger share of the good things of this life? This is no question of the defence of adulteration. The old Association never did, and I have faith enough in British pharmacists to believe that any similar Association never would, defend adulteration. I am too old and too busy doing still better work for pharmacy to aid such an Association, but there are plenty of young and strong men who would.

Certain official public analysts are asking pharmacists to help them to create standards under which prosecutions for selling drugs which are adulterated shall be successfully conducted By the way, how is adulteration to be distinguished from inferiority of quality due to natural causes? Do those who favour the scheme contemplate the reduction of the present high official standards for drugs used in dispensing prescriptions until figures are reached which shall not involve injustice to anybody? Are the best parcels of a drug to be allowed to be adulterated by Act of Parliament, just as best milk is allowed to be watered by Act of Parliament to the extent of nearly 10 per cent.—say, a 9·3 strength to be diluted down to an 8·5! Such an achievement would scarcely be creditable, all things considered. Or is it in contemplation to leave the official standards alone, but, while thus safeguarding drugs prescribed by registered practitioners, to otherwise sell to the public something of inferior quality! That would scarcely be wise.

As regards an obvious mode of defining certain household remedies by inserting their names as synonyms in the Pharmacopœia—an extension, in fact, of the plan already adopted—it is a matter that requires careful and deliberate consideration. Formerly many pharmacists advocated the method, and I supported their desires. But that was when there appeared to be little chance of vexatious prosecutions under the Sale of Food and Drugs Acts being likely to recur. Now the conditions have changed. Synonyms such as laudanum, paregoric, sal volatile, sweet spirit of nitre, precipitated sulphur, are necessary for special reasons. Any broad and free extension of the use of official synonyms is quite another matter, and involves the prior consideration of questions as to how far such a plan would benefit the public, medical practitioners, and pharmacists; how far self-medication by persons medically and pharmaceutically ignorant should be encouraged; in what degree pharmacists would be willing to have their hands tied and to what extent they would desire that their hands should be free; how far the sale of drugs by other than druggists would be affected; and so on. You will find in my nine annual reports references to pages in your own and other journals where this subject is treated in more or less detail. Your DIARY for 1878, page 61, contains a list of 1,200 synonyms.

Yours faithfully,
JOHN ATTFIELD.

TO PREVENT CARBOLIC ACID BECOMING RED it is recommended that the acid be kept in small bottles, a small amount of powdered stannous chloride being added to the fused acid before rebottling.

ARMY DISPENSERS have been recruited for service in South Africa at the magnificent pay of 4*s.* a day [3*s.* 6*d.*—ED. *C. & D.*], with uniform. They get, of course, in addition to this, free board and lodging, but the kind of board and lodging which is likely to be obtained with any of our armies at present in the field can hardly be looked upon as an inducement to intending recruits, and some of the experiences that have been communicated to the papers by men who have been caught are hardly calculated to encourage the others. I have had a letter from a young chemist, complaining strongly of the meagreness of the terms offered for skilled labour. So far as the chemist is concerned, he can, of course, please himself as to whether he will go or not. What impresses me far more in the matter is that the labour which is likely to be obtained on such terms may possibly be far from skilled. Our soldiers have surely enough perils to encounter in the field without exposing themselves to the tender mercies of youths like the chemist's boy in Pickwick, who thought that Epsom salts was oxalic acid.—*Truth.*

The United States Pharmacopœia.

Some Notes on its Revision.

THE recent announcement that the United States Pharmacopœia Convention has been called to meet in Washington next May tempted us to make some inquiry as to the manner in which the Pharmacopœia is revised, and the presence in this country of Dr. Frederick B. Power, F.C.S., a member of the committee who revised the 1890 edition, enabled us to approach one who could speak with authority on the matter. The revision of the United States Pharmacopœia is interesting in itself, because that work leads the way for all other Pharmacopœias, and it is especially interesting to British pharmacists who have aspirations in regard to their official recognition in the compilation of the British Pharmacopœia, because the U.S.P. is mainly the work of pharmacists. Mr. C. Umney's observations on the subject (*C. & D.*, January 6) sufficiently indicate present feeling on this matter.

The first stage in the revision of the United States Pharmacopœia is the summoning of a Convention of representative medical practitioners and pharmacists in the United States. This meeting is held at the national capital. Notice of this Convention is given a year in advance, so that all the bodies who are entitled to send delegates to it may have ample opportunity for appointing such delegates. The bodies which are so privileged are medical associations and societies, both National and State, and medical educational institutions; also the corresponding State and National associations of pharmacists, and a few local pharmaceutical associations, as well as colleges and schools of pharmacy and delegates from the United States Army and Navy Medical Departments and the Marine Hospital Service. Each body appoints two or three of its members as delegates, and the same number as alternates should the first-appointed delegates be unable for any reason to attend.

Dr. Charles Rice,
Chairman U.S.P. Revision Committee,
1880 to 1900.

The Convention,

having met at Washington on the day appointed, is called to order by the President for the time being. The proceedings last for about three days. The first duty of the Convention is to appoint a certain number of gentlemen as permanent officers—a president, four vice-presidents, a secretary, and an assistant secretary. Next a committee of revision is appointed. This consists of twenty-five members, including a chairman, while the President of the Convention is also *ex-officio* a member of the committee. Dr. Charles Rice, of Bellevue Hospital, New York, was Chairman of the committees which revised the 1880 and 1890 editions. Dr. Rice is one of the most remarkable pharmacists in the United States. He is a man with exceptional philological knowledge, has an extensive acquaintance with pharmaceutical literature and intimacy with chemical processes, while his indomitable perseverance and consummate tact have enabled him to secure from the members of committee the best services in the work of revision.

The next business of the Convention is to decide what the new Pharmacopœia shall or shall not contain. In other words, the Convention draws a chart to guide the Revision Committee in their labours; for example, in 1890 it decided, amongst other things, that remedies of a proprietary nature should not be recognised in the Pharmacopœia, and this resolution excluded from the work such valuable remedies as antipyrin and phenacetin, simply because the selling-rights of these articles were covered by United States patents. Such questions as weights and measures are also settled by the Convention, and it was a resolution in 1890 that secured the exclusion of the old system of weights and measures and the adoption of the metric system solely. In short, all the questions of higher principle are decided by the Convention, and the details are left to

The Revision Committee.

The constitution of this committee represents medicine and pharmacy with fair equality. It is not expected in appointing medical practitioners that they will undertake an equal share of the work, except in those cases where the practitioner happens also to be a pharmacist. Such was the case with the late Charles O. Curtman, Ph.G., M.D., of St. Louis, who was a chemical expert although a medical graduate, and as a chemist his services to the Pharmacopœia were of signal importance. Committee members who are medical practitioners assist especially in the recommendation of medicines and medicinal preparations, and generally in such matters as medical men only can advise upon. The direction of the work of revision, as we have said, rests upon the Chairman, who, however, does not act with autocratic will, but rather as the centre of accord. His first serious duty is to appoint sub-committees, consisting, as a rule, of two or more members, to whom are entrusted those departments of the Pharmacopœia in which they are known to have specialised or for which they have special facilities for investigation. On the last occasion there were

Thirteen or Fourteen Sub-committees

appointed in the first instance, and others were nominated as the occasion arose for them. Thus there were the sub-committees dealing with (1) inorganic chemistry, (2) organic chemistry, (3) alkaloids, (4) essential and fatty oils, (5) fluid and solid extracts, (6) decoctions, infusions, and tinctures, (7) cerates, ointments, and plasters, (8) syrups and similar preparations, (9) nomenclature, (10) botany and materia medica, (11) atomic weights, (12) finance, (13) reagents and test-solutions.

Each sub-committee has a chairman, who is responsible for the work, and who ensures that the results of investigations shall be in due course collated and presented to the Chairman of the Revision Committee. Any member of a committee who is appointed to a sub-committee is told so by post and who is the Chairman of the sub-committee. A member may be on several committees at the same time. A most notable point in regard to the work of these sub-committees is that the recommendations and results which they decide upon are entirely effected by correspondence. Chairmen of sub-committees who receive records of work from their fellow-members communicate them to the Chairman of the Revision Committee, who in his turn has these copied and sent to every member of the Revision Committee and, probably, to outsiders who are known to have special knowledge on the subject. Each member on his appointment is provided with an enormous scrap-book for filing the circulars so issued, and as each circular is numbered members are able to refer to them at any time when they are mentioned in succeeding circulars.

How Inorganic Chemistry is Revised.

Now comes the hard work of revision, and it may be illustrated by the department of inorganic chemistry, which in the 1890 Pharmacopœia was put in charge of Dr. Curtman and Dr. Power, the former being the Chairman. The sub-committee had first to decide the question of atomic weights, for until that was settled it was not possible to begin the task. At first it was suggested that Clarke's table, based upon oxygen = 16, should be adopted, but later it was thought that Meyer's would be preferable. It was finally decided by the vote of the committee that the latter should be adopted, and the latest values published by Meyer and Seubert were accepted, the authors giving the committee direct assistance in the matter. In the settling of such a question as this the recommendations made by the sub-committee were circulated to the members of the general committee, and the Chairman of the latter collated the replies, giving in a circular the gist of the whole, with such comments as a chairman can make. Finally the question was put for the yea or nay of the members, and their vote decided. It may be fancied that this looks rather a roundabout way of arriving at a decision, especially as scores of moot points may arise in the course of revision, and that an hour round a table would settle a batch of difficulties. But it should be considered that in the United States the members of the committee may be a thousand miles or more distant from each other, or from the Chairman, so that frequent meetings of the entire committee are impracticable, and in practice the postal method is found to work exceedingly well.

While the atomic-weight question was under discussion and waiting decision the inorganic chemistry sub-committee agreed upon the order in which each monograph should be written, and this is a copy of the mode agreed upon by Drs. Curtman and Power, which is substantially adopted in the U.S.P. :—

1. Latin name.
2. English scientific name.
3. Chemical formula (unless there is a dilute preparation, in which case it is to be given with percentage, as in the present edition).
4. Synonyms.
5. Reactions of identity.
    (*a*) Description, colour, odour, taste, efflorescence, deliquescence, sp. gr.
    (*b*) Solubility in water at 15° C., 100° C. (miscibility in case of liquids).
    (*c*) Solubility in other menstrua (miscibility in case of liquids).
    (*d*) Behaviour at higher temperatures: loss of water, melting-point, boiling-point, charring, volatilisation, sublimation, residue, &c.
    (*e*) Identity reactions with test-papers, chemical reagents &c.
6. Tests for purity.
    (*a*) Qualitative.
    (*b*) Quantitative.
        1. Volumetric.
        2. Gravimetric, when volumetric is not satisfactory.
7. Manner of preservation.
8. Preparations.

It was next decided that, so far as possible, every statement in the Pharmacopœia then existing should be rigidly examined and verified by actual experiment. The members were exceptionally privileged in having supplied to them the "Digest of Criticisms," which is published during the preceding decennium under the authority of the Chairman of the Revision Committee. In this Digest are given references to all points of criticism bearing upon the text of the Pharmacopœia, with notes of new processes and new tests which may be considered by the committee. To these the revisers would naturally add notes of their own reading, especially of journals which are indirectly connected with pharmacy, and therefore are not dealt with in the "Digest of Criticisms." The revisers also compared with their own Pharmacopœia Pharmacopœias of every civilised country, and thus, while their practical work was going on, they were able to assimilate with the United States methods the best of the standards of foreign countries.

It is particularly to be observed that as the revision was going along the revisers were in constant communication with individuals and firms who were known to be possessed of special knowledge regarding matters that were under consideration, and when any new process or alternate process of manufacture came to be considered and its practicability had been tested on a small scale, the revisers would always submit the process to a manufacturer so that its practicability for the large scale might be proved.

Again, when the limit of purity in any compound had to be settled, this was determined either by examination of all available commercial specimens or by communication with the manufacturers, who were always found to be ready to give the benefit of their experience to the committee. The latter custom was especially necessary in the case of very expensive commodities the manufacture of which is confined to a few—rare alkaloids, for example—and we believe that much valuable advice was obtained in this way.

Another commendable feature of the revision was that the committee kept themselves in touch, while it was proceeding, with leading members of most other Pharmacopœia Committees who were likely to be interested in the matter, and in this way pharmacists of every country in Europe were consulted, besides the leading pharmacists of America also. This consultation generally took the form of submitting the circulars to them, with appropriate explanation. The revisers went upon the principle that

Secret Work is not Beneficial to Accuracy,

and, while not desirous of making every step of revision public, they showed that when the knowledge required was not available on the committee, they were not ashamed to go outside for assistance. Accuracy of the text was the main thing. While the revision was proceeding special investigations bearing upon it were made either by members of the committee or by willing helpers connected with Colleges of Pharmacy or the laboratories of the large manufacturing houses, or by retail pharmacists who had taken up a special line of work and gained reputation in it. In this way a large amount of quite new matter was incorporated into the 1890 U.S. Pharmacopœia, and it may also be said that many of the researches are not at all reflected in the book, for the work done was most catholic and compendious.

Preparation of the Text.

The text of each monograph was drafted by the members of the sub-committees and sent in to the Chairman. To each draft monograph was appended an explanation of why alterations were made in the existing text. In this way there would sometimes be compressed in a dozen lines the results of six months' experiment which had led to the detection of a new principle or the discovery of a new fact. Within three years the revision was practically completed, and the text had been sent in to the Chairman. The committee had been appointed on May 15, 1890, and by February 24 1893, Dr. Rice was able to send out a notice regarding the proofs of the Pharmacopœia, and in July of that year a representative of The Chemist and Druggist was able to examine the final proof-sheets of the work.

To give an idea of how the work is distributed, and how outside assistance is called in, we quote a few items from the list of circulars containing hundreds of the like issued during the revision :—

Report of sub-committee on oils and oleo-resins (1), by F. B. Power.
Atomic weights, by F. W. Clarke.
Report of sub-committee on tinctures, fluid extracts, &c., by J. P. Remington.
Communication from Professor R. Fresenius regarding table of atomic weights.
Report of sub-committee on therapeutics, by F. A. Castle.
Critical remarks on Clarke's atomic weights, by Lothar Meyer and Carl Seubert.
On atropine and hyoscyamine, by E. Merck, of Darmstadt.
Assay of opium and its preparations, by W. M. Mew.
Determination of melting-points of some alkaloids and their salts, by Dr. Alfred Dohme.
Report on official wines, by C. S. N. Hallberg.

For the first time the 1890 committee decided to be their own publishers, and this they managed with such success that within a few months of the publication of the work (in the fall of 1893) the committee found themselves with accumulating funds. This was a new experience to the members, who hitherto had been working for pure love, as only the most expensive materials were paid for by the committee, which really had only a few hundred dollars when the work began. This fact is exceedingly significant in view of a statement recently made that thorough checking by experiment of all statements in the British Pharmacopœia would take twenty years, and cost 20,000*l*. The U.S.P. sub-committees checked the inorganic and organic chemistry in a little over two years, and we believe that 100*l*. would more than cover the cost.

Work During the Interregnum.

A United States Pharmacopœia Committee's labours do not cease with the publication of the book. The Revision Committee is appointed for a decennium, and although the work is necessarily most onerous during the first three years of the period the remaining seven bring to the Committee an enormous mass of criticisms which have to be considered, while further progress in pharmacy and therapeutics as well as the sciences related thereto has to be kept pace with. The 1890 edition of the Pharmacopœia, which sold to the extent of 10,000 copies or thereabouts, put the Committee in funds, and, knowing this, an attempt was made to institute a more continuous system of research than had previously been attempted. Therefore, a Research Committee was appointed, which has several sub-committees. These latter are presided over in almost every case by a teacher in one of the colleges or universities, or otherwise by some research chemist attached to a factory, and during the past six years these sub-committees have taken up subjects which require extended research before settlement. Professor Prescott's research on alkaloidal periodides and the researches on terebene and various essential oils—peppermint, wintergreen, &c.—by Drs. Power and Kleber are fair examples of the kind of work that has been accomplished during this interval. The work has been done *con amore*, but in some cases small grants such as the British Pharmaceutical Conference gives to its workers have been made for materials, or perhaps occasionally a more substantial sum for long-continued investigations. The value of the work done by these Research Committees has still to be summed up. But there has been very general satisfaction expressed with it, and of this there is not the slightest doubt—that it has been comparatively inexpensive, and probably not more than $2,000 or $3,000 has been absorbed by it.

We asked Dr. Power if he could suggest any means whereby the United States Pharmacopœia plan could be applied to this country, but he, perhaps wisely, prefers simply to speak of what has been done in the United States, where the conditions are somewhat different from those existing in the United Kingdom. It is generally considered here that the United States Pharmacopœia is a partly-private venture, and while this is so in a measure, yet it is, as much as the British Pharmacopœia, a national work, and perhaps more authoritative. It is only the fact that Adulteration Acts are not universal in the United States that makes the Pharmacopœia non-authoritative in that respect, but the United States Government in all its departments abides by it strictly. We cannot hope to have a convention of British pharmacists and physicians such as our American cousins have, but we feel strongly that the main principles which guide the revisers of the United States Pharmacopœia are equally applicable in this country, and, under present conditions, what we need more than anything is a wider representation of pharmacists upon the committee—if not actually as visitors, at all events as workers.

A Defence of Opium.

A CONTRIBUTOR sends us a copy of the *Kilmarnock Standard*, which contains an eighteen-verse poem "To Opium," by Dr. Wm. Findlay. We select a few stanzas. They are built, as will be observed, on the most orthodox Burns lines. The author probably could not help that as he has already shown his interest in Scotia's bard by writing about Burns and the medical profession :—

Come, phial wi' the crimson label,
An' juice o' richest brown an' sable !
I'll sing a sang, the best I'm able,
In praise o' thee ;
That, frae the land o' Eastern fable,
Comes ower the sea,

They've slander'd sair thy honest fame,
An' ca'd thee mony an ugly name,
E'en at thy door to lay the blame
They've no been laith,
O' sendin' mair to their lang hame,
Than fair strae—death.

But ye are no God's only creature,
Dear phial wi' the nut-brown tincture !
'Gainst whilk they've shawn the rigid feature
An' upturned e'e ;
An' wreaked oot their narrow nature,
In spitefu' lee.

* * *

Dear substance o' the poppy's heart !
How bootless were the doctor's art
To ease the pains that stang and dart,
Without thy aid !
Nae ither drug could play thy part,
That e'er was made.

In stomach-ache or colic pain,
In ga', or in the gravel-stane,
Whare gnaws the nerve at flesh or bane,
Wi' "drap an' pill,"
To hunt it oot, let thee alane,
An' quickly kill.

* * *

The poor consumptive weary wight
That sweats and coughs the lea-lang night,
E'en him thou giv'st a brief respite
In slumber sweet,
Till through his garret steals the light
Wi' angel feet.

That's just a taste o' thy great skill
In mixin' guid wi' human ill :
The distraught soul, in anguish stil',
Who nightly weeps,
Thou comes an' like a miracle,
In Lethe steeps.

Reviews.

A Laboratory Manual of Physiological Chemistry. By E. W. ROCKWOOD, B.S., M.D., Prof. of Chemistry, Iowa. $7\frac{1}{2} \times 5\frac{1}{4}$. Pp. 204. The F. A. Davis Company, Philadelphia.

THIS manual can be recommended as an excellent guide to its subject. It deals in separate sections with the structure and chemical characters of the carbohydrates, fats, proteids, and various tissues. The chemistry of the digestive processes, and of the blood, bile, and urine are there all fully treated. It is essentially practical. A short epitome of the main facts is first given in each section, with their explanation, followed by the various analyses and experiments bearing on these facts. The apparatus required is the usual chemical-testing outfit, with inexpensive additions. It is clearly written, so that without a teacher, and with only a limited knowledge of physiology, the student would be enabled to master all the essential points of the processes treated. The book is conveniently interleaved for the insertion of additional notes.

Optics: A Manual for Students. By A. S. PERCIVAL, M.A. 8×5. Pp. x + 400. Macmillan & Co.

THIS book, primarily designed for ophthalmic students, fills a decided gap in optics, a subject which, as a rule in ophthalmic manuals, is relegated to a single chapter, if not neglected altogether. Standard works on optics do not approach the subject from an ophthalmic point of view, but deal with such matters as rainbows and halos, and neglect such important things to the optician as the size of retinal images, or the effect of a decentered lens on the incident light.

This book deals with such subjects as reflection from plane and curved surfaces, conjugate foci, principle of same phase not least time, refraction, dispersion, achromatism, caustics, aberration at a spherical surface, and contour of the refracted wave-front. Optics applied to the eye and the various correcting lenses and prisms used in ophthalmic practice is dealt with in a chapter on the human eye. Each chapter finishes with a few questions on the principles dealt with in it, answers being given at the end of the book. The book requires a knowledge of mathematics up to the differential calculus, but not of an advanced character, and its study should be of great use to ophthalmic surgeons and opticians on account of the accurate way in which optical principles are stated.

Liquid Air and the Liquefaction of Gases: Theory, History Biography, Practical Applications, and Manufacture. By T. O'CONOR SLOANE, Ph.D. $8\frac{1}{8} \times 5\frac{1}{4}$. Pp. 365. Illus. Sampson Low, Marston & Co. 10*s.* 6*d.*

THE various steps which led up to the production of liquid air are fully discussed in this book, which is, we believe, the first to be published on this subject. The title gives a good idea of what the book is about. Incidentally, the rise of the Royal Institution—the home of liquid air—is dealt with, Professor Dewar's portrait and biography being among the interesting features of the book. Mr. Tripler's accomplishments in the liquid-air line come in for much praise, and, shorn of the trimmings which popular accounts give of his exploits, he has still much to his credit for the way he has enlarged the sphere of liquid-air experiments. Chapters are also devoted to a description of the apparatus used by Linde and Hampson, and there is a very fascinating one on experiments with liquid air, in which some new ones are described. The book is not only interesting, but useful, in that it brings together the scattered literature on the subject of liquid air and liquefied gases in a way which chemists will appreciate.

Curiosities of Light and Sight. By SHELFORD BIDWELL, M.A. $7\frac{3}{4} \times 5$. Pp. xii + 226. 50 Illus. Swan, Sonnenschein & Co. 2*s.* 6*d.*

WE have occasionally alluded to the curious researches on light and sight upon which Mr. Bidwell has been engaged for some years. He has, in this interesting book, brought together the various notes of lectures on these subjects he has delivered before, among other societies, the Royal Institution and the London Institution. The essays are written in a popular and informal manner, and refer to matters concerning which no readily accessible accounts are to be found.

The chapters deal with (i.) light and the eye; (ii.) colour and its perception; (iii.) some optical defects of the eye; (iv.) some optical illusions; (v.) curiosities of vision. The fourth chapter deals with such subjects as the illusion of length, distance, inclination, motion, colour, and luminosity, Zöllner's lines, recurrent vision, and the Charpentier effect. As an illustration of the simple style of the book we quote the following. In speaking of the bacillary layer of the retina with its rods and cones, he says:—

> Imagine a small portion of the inner surface of the eyeball, one-tenth of an inch square, to be magnified 2,000 diameters (4,000,000 times), and let the enlarged area be represented by the floor of a room 17 feet square. Procure a quantity of cedar pencils, and set them on the floor in an upright position, and very close to one another. It will be found that the number of pencils required to fill the space will be about half-a-million. To make the analogy more complete, let some of the pencils be sharpened to a long tapering point at their lower ends, the greater number remaining uncut just as received from the manufacturers. Neglecting details, we may regard the uncut pencils as representing upon an enormously magnified scale the rods of the retina, and the pointed ones the cones.

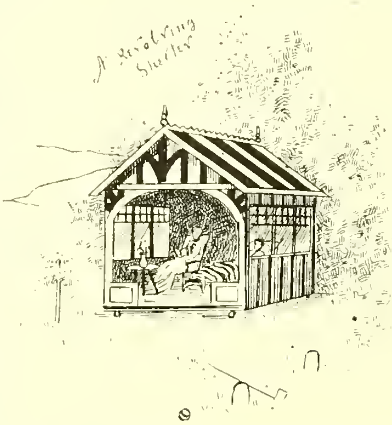
British Sanatoria for the Open-air Treatment of Tuberculosis. $8\frac{3}{4} \times 5\frac{1}{2}$. Pp. 50. John Bale & Sons. 1*s.* 6*d.*

THIS is an account of sixteen sanatoria at present established in Great Britain for the treatment of consumption by the open-air method. Each sanatorium is described and an outline given of the treatment pursued. The terms and best method of getting there are stated, and most of the sanatoria are pictured by means of half-tone blocks.

We have read the book with great interest, and admire the way in which the various sanatoria put forward their special recommendations. Some of them, however, we must say, put the matter in rather a bald manner. For instance, the following is not very inviting, even to a person in good health, let alone a consumptive:—

> The house is plainly furnished, without any carpets, heavy curtains, or any ornamentation; the chairs and lounges are of bent wood and cane, in order that everything may be washable. All woollen material, as saddle-bag or stuffed chairs or sofas, is scrupulously avoided in the sanatorium to minimise the risk of infection. . . . The floors are covered with linoleum, and mopped daily with a damp cloth containing a weak solution of carbolic. . . . Most of the patients take their meals in the common dining-room under the supervision of the resident physician. . . . No alcoholic beverages are allowed.

For this the charge is from 3 to $3\frac{1}{2}$ guineas a week. "British Sanatoria" is a book which chemists will find useful, as now that the public are interested in the open-air treatment they are sure to make inquiries from their chemist or medical man as to the various sanatoria. The illustration shows one of the revolving shelters which are used at most of the sanatoria. The shelter can be moved so as to avoid wind and catch all the sunshine possible.



NEEDS NERVE.—Dentist: "I see that I shall have to kill the nerve."

Patient: "For heaven's sake don't! It would ruin me in my business. I'm a life-insurance agent."

Flexible Gelatin Capsules.

Notes on their Manufacture by a Manufacturer.

IT is no unusual thing nowadays to see a prescription for gelatin capsules in place of pills. The soft gelatin capsule possesses undoubted advantages in the administration of many drugs, especially such as are nauseous or unstable; and frequently the equivalent of three or more pills can be exhibited in one capsule which is more easily swallowed than a third or even a fourth of the same dose in pill form. Further, the contents of a capsule are generally of a soft consistence compared with a pill, and, presumably, assimilation is thus expedited. There are also claimed for the capsule the advantages of portability and accuracy in dosage, which especially applies to such fluid substances as are suitable for sending out in this way.

Twelve or fifteen years ago the trade in gelatin capsules was very small, and comprised only a few well-known drugs; whereas now many wholesale drug-houses list hundreds of varieties of capsules of which they are the actual makers, while not a few retail chemists send out capsules of their own manufacture, or, at least, of their own filling. For the latter, the necessary plant is neither large nor costly; the principal appliances are here figured.

Apparatus.

First are needed a water-bath and Bunsen burner to heat it. The bath and lid are made of tinned copper. This piece of apparatus is for making or melting the capsule-mass (fig. 1).

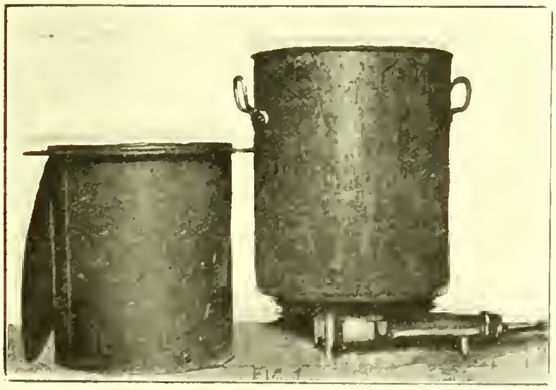


Fig. 1.—Water-bath. The inner vessel is shown to the left, and the boiler on the gas-burner.

The vessel is provided with a rim by which it is suspended in the bath, and is of such size as to leave about 3 inches clear between the bottoms, and about ½ inch space all round.

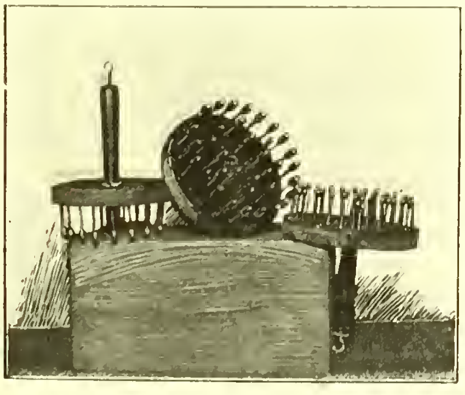


Fig. 2.—A Set of Dippers or Olives.

Dippers are the next requisite (fig. 2). These are stout wooden discs, with brass moulds (olives with supports) screwed into one side, and a wooden handle securely fixed to the centre of the other side.

The filling-apparatus is a brass syringe (fig. 3) which is specially suitable for filling capsules with pasty materials or those of a semi-fluid consistence. The same figure shows the appliance used by the author for closing capsules.

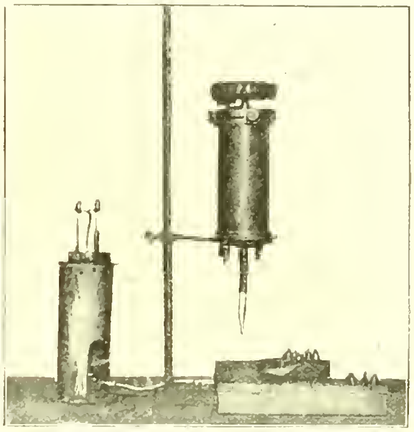


Fig. 3.—Filling-apparatus.

An apparatus for filling liquids which are limpid enough to flow through a narrow nozzle by their own gravity is shown in fig. 4. The material may be contained in any suitable vessel placed at a convenient height above the glass nozzle, the flow being controlled by a spring-slip, as shown in the figure.

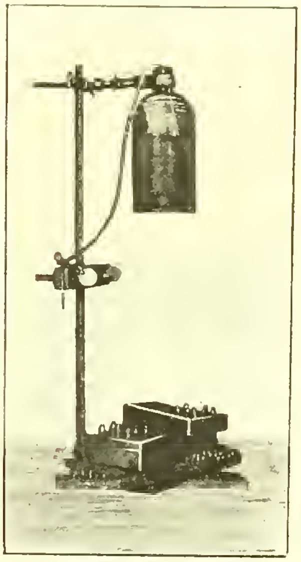


Fig. 4.

Capsule-mass.

The following formula has been found suitable for capsules for all ordinary purposes:—

Gelatin	...	30 oz.
Acacia mucilage		7½ oz.
Glycerin	...	15 oz.
Water ...	...	50 oz.

Soak the gelatin in the water; when soft, add the mucilage and glycerin; melt in water-bath (fig. 1), and mix thoroughly by stirring.

It is advantageous to have only about 2 or 2½ inches of water in the bath: this quantity is readily brought to the boiling-point, and the copper containing the gelatin mass is thus subjected to the temperature of boiling water. For the capsuling of substances which are not improved by contact with moisture, or are otherwise unstable—*e.g.*, ferrous chloride—it is desirable to have a gelatin mass containing a small proportion of sugar and less glycerin than is indicated in the above formula. The latter provides for a capsule that dries firmer and ultimately contains less water, while the former may be supposed to act in some measure as a preventive of oxidation. The cover shown in fig. 1 is simply a circular piece of tinned copper, and is used to prevent the formation of a "skin" on the top of the melted gelatin mass. It is removed only when the dipper is in use; and, to allow the condensed moisture on its under-surface to evaporate instead of dropping back into the mass, the cover is reversed each time it is lifted.

How to Make the Capsules.

The moulds are wiped with an oily cloth. The operator should see that the mass is of proper consistence, and carefully scrape any skin, air-bells, or water on its surface to the side with a broad square-pointed spatula, or remove with a scoop. The dipper carrying the moulds is then lowered into the copper until the moulds are about an inch under the surface of the gelatin mass; the dipper is gently rotated to ensure uniform coating of the moulds, and then slowly and steadily withdrawn.

In wet-plate photography the dipper carrying the prepared plate is removed from the sensitising-bath slowly, the excess of liquid being thus drawn from the plate by capillary attraction. The result is that when the plate leaves the bath there are but 2 or 3 drops of silver-nitrate solution to be got rid of, whereas, if the plate be rapidly withdrawn it carries a large excess of solution, the last of which gravitates to the lowest corner, and thence back into the bath or drops on the floor, the operator's fingers or clothes, or trickles down the inside of the dark slide. So is it in capsule-making. If the moulds be rapidly drawn from the gelatin mass, they must be held vertically to allow excess of gelatin to drop off. Besides the loss of time thus entailed, a large proportion of the capsules made in this way are not of uniform thickness, or they may be too thick or too thin all over. When the moulds are clear of the copper, the dipper carrying them is quickly turned upside-down to allow the semi-fluid coating, which is gravitating to one end, to spread uniformly over the mould. If the moulds are cold when dipped, the gelatin is then practically "set." The capsules are now allowed to cool, and are then drawn from the moulds with the fingers.

A dipper conveniently carries from fifteen or twenty large moulds to fifty or sixty of the smaller sizes, and with, say, four dippers in use at a time the capsules on the moulds dipped first are sufficiently cold to be drawn off by the time the fourth lot is dipped and set aside. It is sometimes necessary, especially in warm weather, to dip the moulds in cold water for a few seconds between every third and fourth dip; for the heat absorbed by the metal from the hot gelatin, and the frequent handling of the moulds, gradually raise their temperature, thus retarding the "setting" and subsequent cooling of the capsules.

The Shape of the Capsule.

The ordinary narrow-mouthed capsule is either ovate (fig. 5, B) with the narrow end somewhat elongated, or oval (fig. 5, A), with a more or less distinct shoulder. The shoulder gives the finished article the shape of a symmetrical oval; shape A that of an egg, a balloon, or an Indian club, according to the contour and length of "neck." Before a capsule is filled, its neck, or part of it, is cut off with a knife or scissors. In the case of the ovate capsule it is difficult to know where the capsule ends and the neck begins; and as the part to be removed is practically cylindrical it may be cut off with scissors. The oval capsule, however, cannot be trimmed successfully with a straight-edged cutter; if it be cut through between shoulder and neck with a knife or scissors, the resulting "mouth" is not round, but beautifully lipped (fig. 5, C). Such a capsule is somewhat difficult to fill, and the lips do not lend themselves to neat and expeditious sealing. As a straight-edged cutter gives a curved aperture, a curved cutter should give a straight aperture; and the proper tool for trimming an oval capsule has its cutting-edge curved, and is used with its convex side towards the capsule. If the capsule be placed on a flat surface and a gouge-edged cutter applied vertically, we get a capsule as shown at D (fig. 5). This

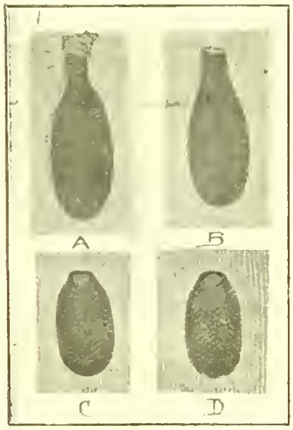


Fig. 5.

TRIMMING-KNIFE

may be conveniently mounted on a small oblong box (fig. 6). Here a stout wooden arm is fixed by a brass spring-plate to one end of the box, and the curved knife, fixed to the free end of the arm, is brought down upon the block on which the capsule is laid; the cuttings drop into the box, and are remelted as required and used for sealing capsules. Capsules to be filled by the syphon-pipette are usually set into trays before they are filled (figs. 3 and 4), while others have to be held under the nozzle by the fingers. Trays may be made of cardboard, wood, zinc, tin, or other suitable material; the holes to receive the capsules are sufficiently far apart to allow filled capsules to be set in without spilling their contents.

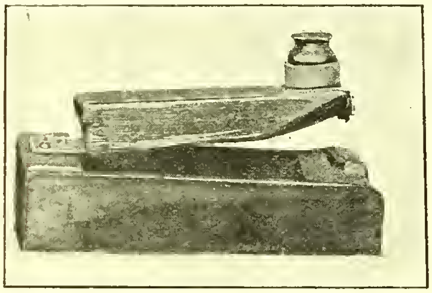


Fig. 6.—Shoulder-cutter.

How to Fill the Capsules.

Only a few drugs are capsuled as dry powder, such as quinine salts, sulphonal, salol, and salicin. The usual method of filling powder is to weigh or divide as for powders, and fill through a small funnel with suitable nozzle, fixed at a convenient height in the clamp of a retort-stand. The diameter of the nozzle is a trifle greater than the mouth of the capsule being filled, but allows the latter to be readily slipped over its extreme end.

Limpid liquids, as already stated, are filled by syphon. Turpentine, paraldehyde, and similar liquids require only a few inches pressure, while others require a "head" of 2 or 3 feet.

Viscous liquids, such as castor oil, and semi-fluids, such as cascara-sagrada extract, are filled by a syringe fitted with a nozzle of suitable bore. The necessary pressure can be applied directly by pressure upon the piston-rod with the hand, by means of a screw through the cap of the syringe which fits the thread on the piston-rod (fig. 3), or by air-pressure. The second method is sometimes combined with an arrangement inside the syringe, in which part of the piston-rod is replaced by a spiral spring. The spring is compressed by screwing in the rod, and the outflow is controlled by a small tap similar to that on a gas-bracket. The weak point in this machine is its inability to draw in as well as push out its contents (the same, of course, applies to air-pressure), for when working with expensive drugs it is of very material advantage to be able to draw back into the syringe the drop or two which sometimes does escape after the capsule is full. The syringe shown in fig. 3 is similar to the one described by Mr. J. A. Forret at an evening meeting of the Pharmaceutical Society in Edinburgh (see *C. & D.*, March 19, 1898), and in practice leaves nothing to be desired. Nozzles of various sizes are easily made from glass tubing, and can be fixed to the tube of the syringe by stout rubber tubing or a perforated rubber stopper.

For filling a few special capsules, ordered by prescription, an ordinary glass syringe answers perfectly; the nozzle is drawn out to the required calibre in a Bunsen or blowpipe flame, and the end cut off so as to leave a point of suitable size; the raw cut edge is then carefully fused by holding it for a second or two in the extreme edge of a small Bunsen flame. The syringe is conveniently handled in a wooden or metal clamp fixed to a retort-stand. The gripper of the clamp for this purpose should be lined with cork or indiarubber.

How the Capsules are Closed.

There are several methods of closing or sealing up the filled capsules—*e.g.*, (1) by a brush dipped in the melted gelatin mass, (2) by a small metal bolt applied hot to the neck of the capsule, or (3) a bolt dipped into the gelatin mass. The second and third methods are very similar to soldering; before solder will "run" on a piece of metal, the part of the metal to be soldered must be raised to a certain temperature by contact with the soldering-bolt or other means. Similarly, in capsule-closing the brush is not successful in making a secure joint; it does not carry sufficient heat to fuse the lips of the capsule. The objection to the hot, dry bolt, as in the second method, is that the capsules have to be filled with about ⅛ inch of neck left on, this being used by the bolt to seal up the capsules. Such capsules are not so conveniently handled in the filling as those with no neck at all. The latter are successfully closed by the appliance shown in fig. 3. A small brass vessel, similar to the tinned copper for the capsule-mass, is suspended in a tall cylindrical tin. There is a hole on one side of the tin to admit a small Bunsen burner, and a series of small holes round the top for ventilation, and it is soldered to a heavy metal foot. The brass vessel carries an arm of stout wire with two loops projecting over the vessel. The bolt is made by soldering a capsule-mould into each end of a short length of brass tubing. A sufficient quantity of gelatin mass is melted by the Bunsen, and kept a trifle below boiling. The support of the bolts is so adjusted that the moulds are just under the surface of the gelatin. The bolt thus acquires a sufficient temperature to fuse the mouth of the capsule on which it is allowed to press for a second or two, and carries with it sufficient material to close and give a rounded finish to that end of the capsule (fig. 7). The second bolt is heating while the first is being used. As there is considerable evaporation, a little water is stirred into the melted gelatin as required. With a space of 2½ inches or 3 inches between the flame and the bottom of the brass vessel, the gelatin can be kept at or near the boiling-point without burning.

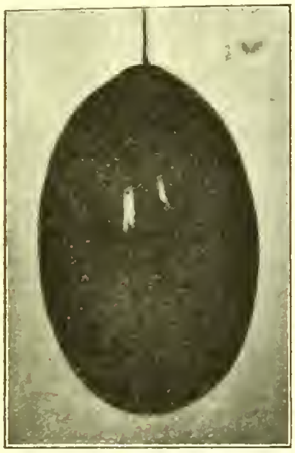


FIG. 7.—CLOSING-BOLT.

Bibliographia Pharmaceutica.

Comprising Notes on Rare or Interesting Books Relating to the Practice of Pharmacy.

Dr. Primrose's Works.

ARCHIBALD PRIMROSE, from whom the Earls of Rosebery are descended, was the son of Gilbert Primrose, chief surgeon to King James VI. of Scotland and First of England. This Gilbert Primrose I. had another son (Archibald's elder), who bore the same name, and to whom we allude as Gilbert Primrose II. Gilbert II. was a Protestant divine, and for many years held a living in the Charente Inférieure Department. He was obliged to leave France in 1623 on account of religious persecution, and ended his days as Chaplain in Ordinary to King James VI. and minister of the French Church in London.

Thus it came about that his son, James Primrose, though born of Scotch parents, first saw the light at St. Jean d'Angely (Charente Inférieure), and was educated at the Bordeaux University. Here he took his M.A. degree, and then went to Montpellier, where he studied medicine, and took his M.D. diploma in 1617. He seems to have followed his father to London, and graduated at Oxford University in March, 1629; nine months later he passed his examination for the College of Physicians (William Harvey was one of the examiners), and took up a practice at Hull. He married Louise de Hankmont at the Walloon Church, London, in 1640, died July, 1659. at Hull, and was buried in Holy Trinity Church.

He wrote several works attempting to refute Harvey's theory of the circulation of the blood; the best-known is, perhaps, "Exercitationes et Animadversiones in Librum Gulielmi Harvæi de Motu Cordis et Circulatione Sanguinis," published in London in 1630. Other Latin works were published by him at Amsterdam and Leyden on the same subject, but Harvey never took any notice of them.

Dr. Primrose's "De Vulgi in Medicina Erroribus" was published in Latin at Amsterdam in 1639. An English translation by Wittie (a fellow-doctor of Primrose's at Hull) appeared in 1651, and the poet Andrew Marvell wrote some lines, both in English and Latin, in its praise. A French translation was published at Lyons in 1689, and one or two other editions exist in Latin.

The Latin copy in the Bibliothèque Nationale, Paris, is a tiny leather-covered volume. Simon Fox, President of the London College of Physicians, certified it, in a Latin inscription on one of the opening pages, as "read, and worthy of publication." Some of its statements, such as that patients' sheets and linen might be changed, that gold boiled in broth will not cure consumption, &c., seem hardly original to a nineteenth-century reader, but were, doubtless, necessary 300 years ago; while smokers may peruse with profit and pleasure the chapters on "Whether Tobacco-smoking is a Remedy against the Plague," and if smoking "pervades the brain."

The "Antimoniall Cup Twice Cast" (London, 1640) is principally reprinted from this work. "Aphorismi Necessarii ad Doctrinam Medecinæ Acquirendam Perutiles" was published at Amsterdam in 1647, and "Enchiridion Medicum," a summary of galenical remedies, in 1650.

Perhaps the most interesting of Dr. Primrose's books to pharmacists is his "Ars Pharmaceutica," published at Rotterdam in 1651. The copy in the Paris National Library is a little parchment-covered volume, 3 inches by 4—little bigger than a lady's Prayer-book. The name of its first possessor, "Anthony Bouge, of Leyden, 1656," is written on the title-page, which runs as follows:—

Jacobi Primerosi,
Ars
Pharmaceutica
Methodus
Brevissima
de
Eligendis et Componendis
Medicinæ
Amsteledam
Apud Johannem Jannsonium.

First of all we have forty-seven pages of "Medicamentorum Vires," classed under heads of "Melangoga," "Phlegmagoga," "Hysterica," &c., with a few remedies for each. The old signs—*e.g.*, ℈ and ʒ—are employed in giving doses. Twenty pages of "Præparatio Medicamentorum" follow—lotions, infusions, triturations, &c. Ten pages suffice for chemical preparations (they were not so numerous then as nowadays)—extracts, distillations, calcinations, &c. Then come the vegetable and mineral preparations.

The "Methodus Componendorum Medicamentorum" includes suppositories, clysters, injections, pessaries, infusions, pills, syrups, juleps, potions, dentifrices, gargles, lotions, balms, waxes, plasters, poultices, sinapisms, lozenges, electuaries, boluses, sternutatories, &c.—a fairly large arsenal for 300 years ago.

Next we have sixty pages of "Pharmacopœa Officinarum," devoted to waters, wines, decoctions, syrups, &c. As a sample we may mention the "Aquæ Calidæ," which include absinthe, artemisia, betony, chamomile. centaury, thistle, fenugreek, hyssop, lavender, melissa, &c.

A general formulary and formulæ for external remedies close the work. The latter include anodynes, repellents, emollients, attenuants, absorbents, vesicatories, detergents, caustics, &c.

Any very lengthy quotations would, perhaps, be out of place, as all Primrose's works are in great part compiled, little being original. They, however, give an interesting insight into pharmacy at the time of the English Civil War and Commonwealth.

Pharmaceutical Veterans.

Mr. John Wade.

A chapter from the half-forgotten history of the progress of pharmacy in Great Britain.

THE history of British pharmacy is nowadays centred round the pharmaceutical societies, and a generation is growing to whom the early stages in the evolution from the old order of things are unknown. For example, it is just a year ago since Mr. Walter Hills, when presiding at the Chemists' Ball, asked Mr. Wade to drink wine with him, and many at the supper-table asked "Who is Wade?" Yet forty years ago (July 23, 1860) Mr. John Wade was the initiator of the movement from which the United Society of Chemists and Druggists was evolved, which Society ultimately assisted in securing a Pharmacy Bill incorporating the views of the Government of the day in regard to the sale of poisons, and putting into the hands of the Pharmaceutical Society of Great Britain power as regards the education of pharmacists which it had so long desired, but could never secure, because it failed to give the *quid pro quo* asked on the public behalf—viz., regulation of the sale of poisons. Mr. Wade has done other things than that, and as he has just retired from active participation in practical pharmacy, it is a fitting opportunity to recall some facts in his career.

Mr. John Wade.

Mr. Wade's education commenced in a school in Great Yarmouth, but in 1841, at the age of ten, the Skinners' Company, of which his father was a member and his grandfather a past-master, gave him a presentation to the Bluecoat School, where he remained until 1846. Then he did not go far, as he was apprenticed for six years to the firm of Charles Barron and Edward Harvey, wholesale druggists, Giltspur Street. In the evenings he prepared himself for the retail trade, and when his apprenticeship was finished he was able to take the management of the retail business of Mr. Philip Jolin, L.A.C. (*i.e.*, Licentiate of the Apothecaries' Company), where he remained for a year, and then purchased the business of Mr. Robert Parsons in Westminster. Not entirely unconnected with his business career is the fact that in 1858 he married Anna Lydia, the daughter of Mr. R. D. Barber, J.P., a mayor of Great Yarmouth.

The first number of The Chemist and Druggist appeared on September 15, 1859, and Mr. Wade tells us that he sent in his subscription immediately. The issue of August 15, 1860, contained a letter written by Mr. Wade regarding the condition of the drug-trade at that time, in the course of which he said:—

> Unfortunately, there are too many distinctions and conflicting agencies keeping us asunder. The M.P.S. knows nothing of his neighbour, a non-Pharmaceutist; and the gentleman over the way is a *Surgeon*-Chemist, whose L.S.A. would suffer if brought in contact with either. Then there are Chemists in a state of transition, I allude to assistants in "the wholesale," many of whom remain until such a time, when *younger* hands are more desirable to employers. These are not pensioned. No! but more often married men, with family responsibilities unable, out of from 60*l.* to 100*l.* per annum, to make any provision for the time when their activity fails. Can they re-enter the retail? Apart from the objection to married assistants, 30*l.* to 40*l.* per annum will not maintain a family. What aid have they to depend on? The aged Chemist has no benefit society; the reduced and infirm Druggist is without a relief fund; proprietors of small retail-businesses, what provision have they, if age or sickness should prevent their attendance in a business which has barely supported them by their constant presence and unfailing energy? An institution, supported by the entire body, is required; and those whose good fortune has placed them above the fear of want, should come forward to give solidity to its foundation, and endeavour to mitigate the privations and sorrows of a class of men, whose education and previous life makes poverty more bitter and hard to bear, and who are generally deserving of a better fate.

Here was a plea for benevolence which will be difficult for the present generation of chemists and druggists to understand, so we may explain that, at that time, the Pharmaceutical Benevolent Fund was restricted to the adherents of the Pharmaceutical Society, and one of the good things that the Pharmacy Act of 1868 did was to extend its benefits. In the same number of The Chemist and Druggist appeared a preliminary prospectus of the "United Society of Chemists and Druggists," which gave the objects of the Society as follows:—

> 1. The establishment of a mutual benefit fund for the assistance of members in sickness, old age, and death, formed upon such calculations by the most eminent actuaries as shall combine economy of charges with absolute security.
>
> 2. To carry out, by district meetings and combined action, any improvement that may be deemed necessary for the welfare of the trade, such as early and Sunday closing hours of business, or any other arrangement that may at any time be of advantage.
>
> 3. To watch the progress, support or oppose any legislative enactment that may affect the interests of the chemists and druggists as a trading community.
>
> 4. To enable members of this Society to have an analysis made of any article at a nominal fixed rate of charges by an able trade analyst, or analysts, duly appointed.
>
> 5. To keep a registry of the transfer of businesses, of required partnerships and situations for assistants, &c., and to be the general recipient and exponent of any trade requirement.

We have no office record to explain how all this came about. The late Major William Vaughan Morgan was, at that time, Editor of The Chemist and Druggist, and Mr. Wade tells us that Major Morgan was struck by the appropriateness of Mr. Wade's suggestion, for, at that time, it has to be remembered, there was a wider gulf between the Pharmaceutical Society and the drug-trade than there is now. The feeling of the day, especially of the chemist and druggist class, is admirably reflected in Mr. Wade's letter, from which we quote. This is the point upon which we have asked Mr. Wade to give us information, and he writes:—

> Mr. William V. Morgan, sympathising with me, consulted his sub-editor, Mr. John Hollingshead, in regard to the formation of an Association, and agreed to advance a certain amount in furtherance of that object. Mr. Hollingshead was acquainted with Mr. Cyrus Buott and his son, who he thought might assist in the project. The elder Buott was deputed to canvass the trade in London, and, when a sufficient number combined, a meeting was held at the London Coffee-house, Ludgate Hill, on Wednesday, January 23, 1861, under the presidency of Mr. Alderman Dakin, who had a retail business at that time near to London Bridge. At that meeting I was called upon to move the first resolution (see *C. & D.*, February 15, 1861), viz.:—
>
> That the promoters of this Association, feeling impressed with the fact that so numerous and intelligent a body as the chemists and druggists of the United Kingdom have no organisation that fairly represents their interests as a trading community, propose that this Society be formed and called the "United Society of Chemists and Druggists."
>
> The resolution was seconded by Mr. Anderson (Duke Street, Manchester Square), and carried unanimously. Thus was formed the Society which for some years played an important part in trade politics, and roused the Pharmaceutical Society from its lethargy and exclusiveness. I had then the opportunity of coming in touch with the leading members of the Pharmaceutical Council in Bloomsbury Square, and although an opponent, and dubbed by Mr. Thomas Greenish "the Stormy Petrel,"* I received the greatest consideration and forbearance from them.

In 1863 the United Society, after two years' quiet work, came to the important conclusion (in view of indications which threatened the privileges of the drug-trade) that steps should be taken to secure the rights of those then in business, and impose an educational test upon every future candidate for the trade. A year later members of the Pharmaceutical Society appealed to their Council to the same effect. The result was that the Pharmaceutical Council drafted a Pharmacy Bill (No. 1), and the United Society another (No. 2). Mr. Wade continues his narrative:—

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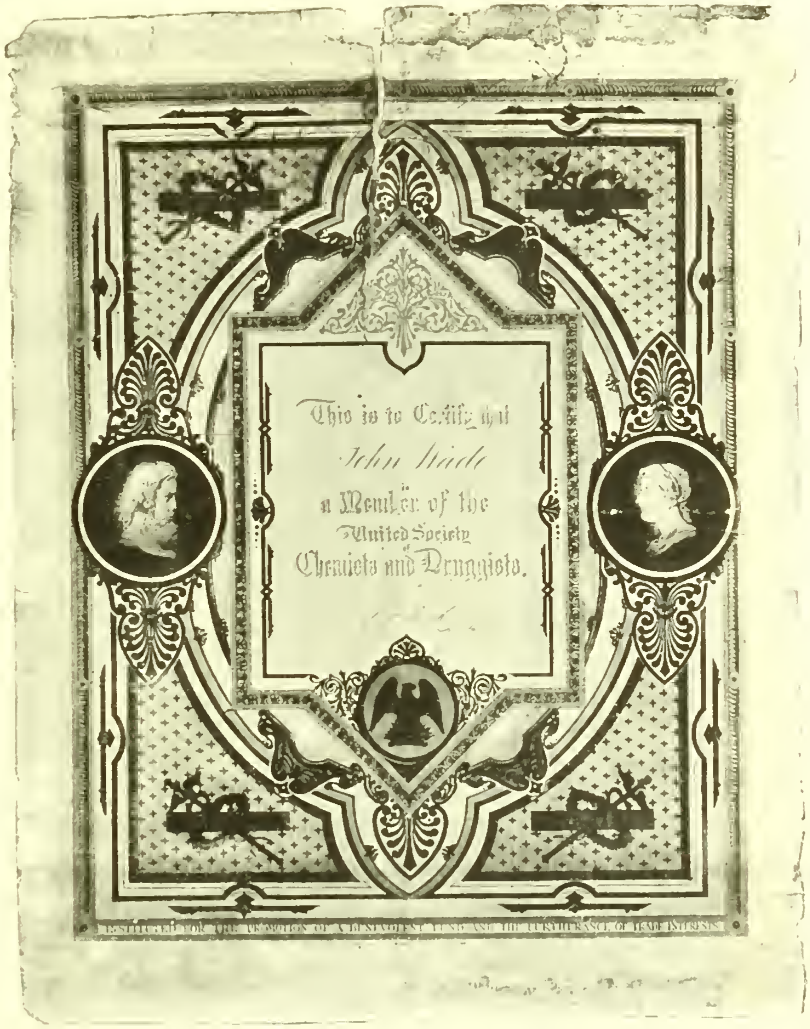
* Professor Redwood, in his portion of the "Progress of Pharmacy," remarks:—"It could hardly be said, as regarded the Pharmaceutical Society, that the new Association was either an opposing or a competing body. The objects of the two Societies were to a great extent different, and the parts of the trade to which they respectively appealed were also different; but as they had some objects in common, and as the same members of the trade were not likely to subscribe to both, there was naturally a little jealousy between them. At a later date, however, the United Society took up a position of antagonism to the Pharmaceutical Society."

> It was then the amalgamation of No. 1 and No. 2 Bills was suggested, and I advocated that an equal number of pharmaceutical chemists and outsiders should be eligible for the Council, but on this point the President (Mr. G. W. Sandford) would not give way. I pressed that if the outsiders consented to support amalgamation all outsiders should be received as members of the Society without a registration - fee. There was a tacit understanding to that effect, and I have maintained it ever since. But after the passing of the Pharmacy Bill a by-law was made compelling every outsider to pay an entrance-fee of two guineas. This prevented the majority of outsiders, who would willingly have become members, joining the Society, and has been the cause of reducing it to its present condition. Had it kept faith it would now be a powerful corporation having the entire trade at its back. Only last year it perceived its error, and abolished the fee, and carried out that which I advocated at the passing of the Pharmacy Bill. Alas! too late! too late!
>
> I had the privilege of being in the House of Commons on the second reading of the Chemists and Druggists Bill No. 2 to instruct Sir John Shelly, Bart., M.P. for Westminster, who had charge of it. It was I who drew up the first draft of the Poisons Bill, and I have the original proof in my possession at this time. My esteemed and dear old friend and companion "Jack" Brough had become Editor of the *C. & D.*, and my business knowledge was placed at his disposal.



This is to Certify that

John Wade

a Member of the

United Society of Chemists and Druggists.

INSTITUTED FOR THE PROMOTION OF A BENEVOLENT FUND AND THE FURTHERANCE OF TRADE INTERESTS

The Certificate of the United Society of Chemists and Druggists.

It was printed in colours and gold.

With the passing of the Pharmacy Act, 1868, the chief reasons for the existence of the United Society had been fulfilled. Chemists and druggists were now united by at least one bond of union—a register, and they were a State-recognised body, while the privileges of the Benevolent Fund were extended to them. These were important elements in the United Society's programme, and since the Pharmaceutical Society had quietly secured their thunder, most of the leaders of the United Society transferred their allegiance to Bloomsbury Square. Mr. Wade waited until 1875 before he joined the Pharmaceutical Society, and he became a useful member very soon. Thus it was he who, at the annual meeting in 1878, proposed the admission of women to the membership of the Society. He was defeated. He renewed the attack in 1879, and the show of hands gave him a majority of one, but this was converted by a division into a majority of three against the admission of women. Mr. Hampson was one of Mr. Wade's keenest supporters in this matter, and the Council (the real opponent to the election of women) ultimately corrected the error of its ways. Mr. Wade was one of the early members of the British Pharmaceutical Conference, and used to attend its meetings regularly. He was a director of the Wholesale and Export Drug Company (Limited), one of several attempts at co-operative wholesale dealing which have failed in this country.

In these latter days Mr. Wade has not concerned himself much with pharmaceutical affairs. He is a Mason and a Freeman of the City of London, which are sufficient outlets for benevolence and energy, and he writes:—"Finding the druggists so apathetic I became tired of beating the wind, and gave all my leisure to Masonry and its work; and now that years have come upon me I retire into the comforts and happiness of home life. It is so long since I attended pharmaceutical meetings, or took any part in trade politics, I do not suppose many will remember my work." When we say that one of the last things that Mr. Wade did as a counsellor and critic of the Pharmaceutical Council (this was nineteen years ago) was to advise them to take a firm grip of the company question, the present generation will feel that these particulars of Mr. Wade's career are well worth recording, and they will join with us in wishing him a happy retirement.

Died Happy.—Visitor: "So your poor husband has passed away, Mrs. Murphy. He died happy, I hope?" Mrs. Murphy: "Oi think so, mum. The last thing he did was to crack me over the head wid a medicine-bottle!"

"There are things in Nature," remarked the philosophical physician, "that completely overawe me. Often do I experience the greatest difficulty in finding language to express myself."

"Yes," replied the chemist, "I thought it must be something that way when I try to read your prescriptions."

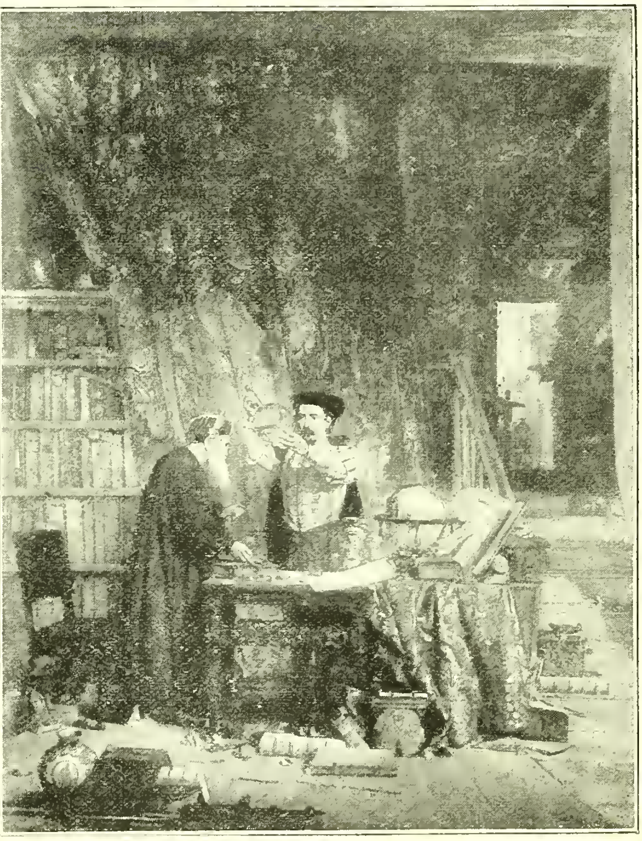
The Art of Alchemy:

Being some Reflections by an Artist upon Alchemy as it is Painted.

Rossetti's Attempt.

In our issue of July 29, 1899, we noticed the influence of alchemy upon the graphic arts from the fifteenth to the seventeenth centuries, touching upon the salient points in the history of painting as concerned with alchemistical subjects, and giving examples by Berneghel, Ostade, and Teniers.

Taking up the thread where it was dropped we find that since the seventeenth century painting has undergone such modifications of aspect, resulting from rococo fancies, classical revivals, historical epochs, and so forth, that only in comparatively modern times has an adoption of all styles admitted the class of subjects that interest us in this connection. Passing then over a few rather unimportant specimens, we may well pause at Rossetti's famous water-colour illustrating Browning's poem of "The Laboratory." It is not necessary to say much of Dante Gabriel Rossetti. He died in April, 1882, at the age of 54, leaving art vastly different from what he found it. He was the chief of that "Pre-Raphaelite" band whose sincere efforts added a bright facet to modern painting. "The Laboratory," a cherished work in the possession of Mr. Fairfax Murray was No. 58A at the New Gallery in January, 1898. It cannot be described better than in the words of Mr. F. G. Stephens, himself one of the "Brotherhood" who says: "The story is that of a Court lady of the *ancien régime*, who, having been jilted, and become maddened by love and furiously jealous of a fairer rival, visited in his 'devil's smithy' a lean old chemist and poison-monger, and by the gift of all her jewels, nay, the kisses of her mouth, bribed that gaunt villain to concoct a 'drop.'" He further remarks upon the bold and original design, its voluptuous suggestiveness, and the vivid coloration of this striking little work. Save for the fair visitor, the gaunt man is solitary, and his den is a mere cell—two particulars in which the Teniers picture is exactly the opposite. Painstaking detail for detail's sake is altogether absent from "The Laboratory." Avoiding the mere letter, so to speak, it gives the spirit of Alchemistic pursuits, according to the popular idea. Rossetti, in fact, appealed to the emotions; the Dutch and Flemish painters to the mere senses. We had hoped to give a reproduction of "The Laboratory," but find that the picture is not available for this purpose.



Fettes Douglas's Alchemist.

In 1855, six years after the date of "The Laboratory," Sir Wm. Fettes Douglas, P.R.S.A., painted still another version of "The Alchemist." This artist was born in 1823 and died in 1891. In style and feeling his picture is much more akin to the old masters than is Rossetti's. The colour is soft and rich; the lighting broad, massive, and simple. Detail is all in all again, and painted with such care and strength that the whole scene looks more like a vast still-life group to which the figures are accessory than a well-thought-out design or a passionate idea swiftly seized. Of poetry there is none; of pathos, as we see it in the Ostade, there is none. The action is dramatically feeble, and tells no tale. The younger man, in trunk-hose and doublet, is pallid and thoughtful, and appears to be more engrossed in some scientific process than is the older man in robes, whose face and hands show much less character. Yet it is to be presumed that the latter is the alchemist. It would seem that the artist lacked that interest in his subject that would have carried him farther into its essential characteristics, and hindered him from using the title as a mere peg on which to hang his display of clever painting. A compromise has evidently been made between the various versions of the subject extant. The palatial room with the brilliantly woven table-cloth, suggests Teniers. The vessel which the younger man holds recalls the receptacle by means of which the numerous Dutch "Water-doctors" made their diagnostic examinations. A stuffed lizard and the skull of a saw-fish lie upon the floor, and other specimens may be discerned hanging in the gloom of the rafters. Books abound in profusion, and shelves full of vellum-bound volumes are partly curtained off by a richly coloured arras. On the table are a globe, various folios, a dark lantern, and two interesting earthenware jars in blue and white enamel. Up the short flight of stairs a man is dimly seen working at a furnace, and beyond is a glimpse of a whitewashed store-room filled with bottles and carboys. The great charm of the picture lies in the many and great excellencies of its execution, rather than in the presentment of its subject, in which respect it is a feeble echo from the old Netherlands. Bequeathed to the nation in 1873 by Mrs. Jane Clara Fochetti, it now fills an important place at South Kensington as the work of a most able painter, for many years President of the Royal Scottish Academy.

In the next example we have a more original and fruitful conception of the alchemist of old. The "Apothecary," by the late Henry Stacy Marks, R.A., who died on January 9, 1898, is a well-invented and rationally-schemed design of a veritable worker in a workshop, though it has, at the same time, all the pictorial appurtenances which appear to be thought indispensable. The unlikely tablecloth is there again, but it is a suitably dingy one. Monsters and sepulchral remains are more numerous than ever, and yet the picture carries with it a sense of conviction that all the others, regarded only from the standpoint of sheer likelihood, seem to lack. One newspaper critic, however, seemed dissatisfied upon its first exhibition day, as the following passage from Mr. Marks's autobiography will show:—

> Mr. Marks invites the most careful attention in "The Apothecary." Here the sixteen lines extracted from the world-famous

description in "Romeo and Juliet" are of much value, as showing how completely the painter has failed in comprehending his author, or how deliberately he has chosen to order his picture in direct contrariety to the lines laid down by the dramatist. Mr. Marks's "Apothecary" is not clad in tattered weeds; his—the druggist's—brow is not overwhelming; his looks are not meagre; sharp misery has not worn him to the bone; he does not look like a caitiff wretch, and he is not "culling of simples"—but is mixing of potions. "'Simples,' Mr. Marks, are medicinal herbs."

To this Mr. Marks replies: "Just so! but my idea was to represent the apothecary mixing the fatal dram of poison which he afterwards sold to Romeo, saying—

> 'Put this in any liquid thing you will,
> And drink it off; and if you had the strength
> Of twenty men, it would despatch you straight.'

His looks were as meagre and his form as lean as I dared make them without verging into caricature."

Farther on the critic objected: "We cannot go so far with Mr. Marks as to admit the appropriate presence in a mediæval apothecary's shop of a human radius and ulna, with a skeleton hand attached. An apothecary who kept human remains, however high-dried, in his shop, would have run considerable risk of being denounced and arrested as a sorcerer."

Stacy Marks's Apothecary.

The artist adds: "Here he was quite right, and I can only plead, as Dr. Johnson did when a lady asked him why he had defined in his dictionary 'pastern' as 'the knee' of a horse—'Ignorance, madam—pure ignorance.'"

The last words would be a fitting excuse for much that is anomalous and puzzling in the widely diverging conceptions of those who have painted alchemy.

Impossible.—Mike (to the chemist): "The docther said, 'Take wan of these pills three times a day.' I tuk wan of thim wanst, but the man doesn't live that kin take wan of thim three times."

An Old Danish Pharmacy, 1749-1899.

Ringköbing is a coast-town on the west of the Danish province of Jutland, and thence we have received from Mr. Hans L. Heiberg an interesting monograph, artistically printed and illustrated, dealing with pharmaceutical matters in general in Denmark, and particularly with the historical Ringköbing pharmacy of which he is the proprietor.

In the early days of pharmacy in Denmark strangers were imported into the land to perform the duties of the *apothek*, and it was only at a comparatively recent date that the sons of the country took over the cares and responsibilities of the pharmaceutical profession. In the year 1749 there were only twelve chemists in the whole of Jutland (now there are 76), and it was at this period that Christian C. Eilschau obtained from the reigning sovereign of Denmark the privilege to carry on in Ringköbing the business of a chemist. Eilschau was an industrious and successful man, having a business in an adjacent town, religious also without doubt, for we are quaintly told that in his account-book, promptly closed at the end of each year, in addition to a balance there was also to be found a thanksgiving to Providence for his prosperity. After Eilschau's retirement in 1751, the pharmacy passed successively through the hands of Jacob E. Hoffman and Johan F. Hein, the latter dying in an impoverished condition. Johan S. Stabel revived somewhat the fallen fortunes of the pharmacy in 1773, but it fell to Johan L. Broager, who came into possession in 1779, to put new life into the business. He, having passed his pharmacy examination with honour, subsequently showed himself a clever and industrious man, "doing a good business in chocolate and wax." At his death in 1823 Hans L. Heiberg purchased the pharmacy, improving the laboratory and establishing a branch at Herning. Eleven years later we find Johannes Knudsen managing the business for the widow, whom he eventually married. In 1856 Christian Carl Heiberg, son of Hans Heiberg, and the father of the present proprietor, became the owner of the pharmacies in Ringköbing and Herning, and for thirty years carried on the business with unvarying success. His son Hans Legauger Heiberg has carried it on since. It is his portrait that we print.

Johan L. Broager.

Mr. H. L. Heiberg.

CRUCIABLI'S FATE.

AN OPERATIC TRAGEDY.

IN TWO ACTS AND THREE SCENES.

Dramatis Personæ.

MORTARIO	*An Ancient Pharmacist.*
PESTÆLA	*His Daughter.*
LIMITADO	*A Cutter.*
CRUCIABLI	*An Exclusive.*

Time—THE PRESENT.

The action takes place in the City of Powderwelle.

ACT I.

SCENE—*Night in* MORTARIO'S *Pharmacy.*

MORTARIO.
The day's work o'er, the scanty till bereft
Of none too sumptuous takings, lone I'm left
To smoke the pipe of peacefulness, and brood
On years agone, when this our livelihood
Was fuller, richer, than these precious times.
Now scoffers scribble syllogistic rhymes,
And at our ancient institutions mock.
Pinning their faith to that unstable rock
"The cult of Pharmacy on business lines."
Prate they of ways moth-eaten and flyblown;
Bright and attractive are the stores they own;
Banished the dim, religious gloom we need
T' uphold the dignity of craft and creed—
Hey for the olden times!

"Hey for the olden times

Song—MORTARIO.

In the Elden Days our business ways
Were slightly void of bustle;
We worked and wept, and smiled and slept,
But none did neighbour hustle.
But now, alack! as the years roll back
We scuttle and we scurry,
We run and jump, and bruise and thump,
And welter in a worry.

Sing passed away, alack-a-day, are the modes and methods olden,
When we worked and wept, and smiled and slept, and wise men were beholden.

We shunned all lights and garish sights,
Scorned all shop-windows clean then;
And a deep, dark gloom like the silent tomb
Was what was always seen then.
We dosed our race in barbarous ways
With aloes, squills, and "quashay";
Now they fill the void with a trim tabloid
Or a neat seductive cachet.

Sing passed away, alack-a-day, are the draughts and clysters olden,
And the deep, dark gloom like the silent tomb in the Elden Days beholden.

[*Sits down in his arm-chair, attempts to read the "Bloomsbury Buzzer," and promptly falls asleep.*

Enter PESTÆLA *on tiptoe.*

PESTÆLA.
Sleep, gentle sire, and dream of ancient days—
Naught but the cobwebbed past can earn thy praise;
While I, who bow and meekly suffer gibe
At modern methods and the modern tribe
Of chemists up-to-data, am adjured
To mark the pallid Cruciabli, lured
By stress of scientific learning to essay
The opening of a "high-class pharmacy."
Much I'd prefer, quoting the gay Mikado,
"To boil in oil" for sake of Limitado.

Song—PESTÆLA.

Cruciabli! Cruciabli!
Like a glass of golden Chablis,
E'en my presence acts on thy imagination.
Thou art dismal-visaged, dreary,
Morbid, monocled, and weary,
And have passed the Major "by examination."
And much he marvels at my cruel daring,
When I am coy his dismal lot at sharing.

Brain terrific! So terrific!
Crammed with knowledge scientific,
And the hope of dazzling greatness looming brightly;
In thy dreams the day is coming
When, pale candidates benumbing
With thy learning, thou shalt cross-examine lightly.
But straightway goeth wight to his undoing
Who hath not learnt the science yet of wooing.

Limitado! Limitado!
Brimming o'er with gay bravado,
With thy shop electric-lighted and bewitching;
Lavish perfume, gaudy label,
Fern and palm on marble table,
And window-scenes with Cupids soap-balls pitching.
Ah me! his style is much more to my liking,
Were but his love for pharmacy more striking.

[*Sighs. Knocking is heard,* MORTARIO *is roused, and* PESTÆLA *admits* CRUCIABLI.

MORTARIO.
Welcome, my Cruciabli! What has brought
Thee from thy test-tubes and thy beakers fraught
With hidden truths of science? Hath the Bill
Which false Lord Chancellor, against our will,
Besought to have enacted been endorsed
By reckless Parliament; or are they forced
By weight of Bloomsbury suffrage to forego
The day of reckoning and the weight of woe
Which would attend should such a measure passed
Be forced on luckless pharmacist? At last
Perchance the craft a glimmering doth discern
Of much prosperity in store, and stern
Unbending pharma-councillors do shake
Their hoary heads, and stock-orations make,
Saying, "I told you so."

CRUCIABLI.
Nay, sire, the word
Goeth forth that they who once so much abhorred
All movement have themselves begun to move,
And, goaded on by clamour, seek to prove,

In timid fashion, that they are of use
As well as ornament. But much abuse
Is spoken loudly of these daring schemes
Which, foolish fashion, so at least it seems,
Are by glib orator with silver tongue
Launched on defenceless craft. Both old and young
Unite in keen revilement.

MORTARIO. What would they,
That such great happenings are here to-day?

Trio—CRUCIABLI, PESTLELA, *and* MORTARIO.

CRUCIABLI. They intend to have a title all their own,
All their own,
And to set the Earl of Gyffard on the throne,
On the throne;
Of these cutting companies they've had enough,
Had enough,
And to say they can't abolish them is stuff,
Them is stuff.
They have just to go to Parliament and say,
-ment and say,
"Make these wicked corporations go away,
Go away,"
And the Lords will up and fight 'em,
And the Chancellor will smite 'em,
And judicial laws will right 'em,
Some—fine—day!

TOGETHER. These are some particulars
To tickle our auriculars,
And perhaps next centuree
They'll come to pass in Pharmacee.

perhaps next centuree
They'll come to pass in Pharmacee"

PESTLELA. The wicked say they're crying for the moon,
For the moon;
But they'll find it very earnest very soon,
Very soon,
When all board directors grovel on their knees,
On their knees,
And cry, "Oh, do not slay us, if you please,
If you please";
For the craft it is united to a man,
To a man!
And all they want to right it is a plan.
Is a plan;
So they'll send a bold petition
Setting forth their sad condition,
And secure the stores' depletion,
If—they—can.

TOGETHER. These are the phenomena
Which nobleman and commoner
Hope some day may be
Evident in Pharmacee.

MORTARIO. We'll have patents at full prices once again,
Once again,
And prescriptions will come dropping down like rain,
Down like rain;
And the cutter when he's closed up with a bang,
With a bang,
Will gibber like a wild ourang-atang,
-rang-atang.
Soon our pharmacies legitimate will hum,
-mate will hum
With the gladness of that great millennium
-lennium.

We'll conceal our exultation,
As befits our haughty station,
In those Days of Reparation,
When—they—come!

TOGETHER. These memorabilia
Are more or less familiar
To all that hope, as we,
For the Best in Pharmacee.

End of Act I.

ACT II.

SCENE I.—LIMITADO'S *Store. Brisk business going on.*

LIMITADO. Ho, varlet! hither bring the aqua font.
These dread prescriptions do my vision haunt:
I love them not; I worry and I fear
Lest wary food and drug inspector peer
And probe with awkward questioning, and find
Ingredients wanting, or not to their mind.
This work is not for us; 'twere better far
To sell stale honey in a gilt-topped jar,
Or push proprietaries to cure all ills,
Like Soakem's Syrup or the People's Pills.

Song—LIMITADO.

In these prosperous days, when the Pharmacist's ways
Show eloquence running to riotry,
We lie very low, make a big window-show,
And bring out a striking propriet'ry.
For we find that there's nothing on all this green earth—
If you put it up tricky and crack up its worth—
That pays like a simple propriet'ry.

In our alchemist days we chanted the praise
Of a philtre or p'rhaps a phylact'ry,
And the belles and the beaux gaily swallowed up those
And thought they were quite satisfact'ry.
But fashions are changing, and physic is too,
So we keep with the times and—between me and you—
We find they are quite satisfact'ry.

Enter Neuralgic Maiden.

LIMITADO. Good morrow, my sweet dame! What would you now,
With rose-bloom cheek, a flush and cloudy brow?
Hath grim neuralgic pain its torture wrought
On thy fair face, and vainly hast thou sought
Assuagement in quack remedy? Ah, well!
We have here sure panacea to quell
The direst of diseases. Half-a-crown.
I thank thee. Twopence off for money down.
[*Exit Maiden, smiling.*

'Tis thus with a simple specific
I cure 'em of tic-doloreux.
And after, with smile beatific,
They say to me, "Thank you, I do—
Quite true—
Oh, I love such a nice man as you."

Enter Anxious Matron.

With sorrow do I hear thy artless tale
Of prodigy cherubic, sound and hale
But yestermorn, and now in feverish flush,
With gums aflame. The fond young sire in hush
Of grim expectancy; with anxious mien
Watching the gum-horizon; searching keen
For adventitious molar. Swiftly bring
Me hither cards with rubber soothing-ring,
To choose, what time I mix and powder well
The soothing saccharum and calomel.
[*Exit Matron, satisfied.*

Thus the matronly anxiety,
With skill and much propriety,
And medicine in variety,
I soothe;
Just a little ambiguity,
Avoiding propinquity
To that sublime fatuity
The truth.

Enter Callow Stripling.

(*Aside.*) The Spring is here; the fluffy lambkins play;
The cowslips twinkle in the meadows gay;
The swallows skim the fleecy clouds, and seem
To reach the gates of heaven; bushes teem
With bursting budlets. Now 'tis come to pass
That eager youth and beauty, lad and lass,
Are vexed with tender thoughts of love and wish
To look their fairest. This the time to fish
For fleeting gain by selling mixtures, pills
And potions, for th' unsightly rash that kills
The smoothness of fair lineaments.
(*Aloud.*) Good sir,
This mixture which to view I now display
Full hundred bottles in the month of May
Do I disgorge. With this the passing blight
On thy fresh countenance is put to flight.
This clears the blood of duchess, servant-girl,
The pimpled scullion, or the belted earl.
Just one-and-nine, and by my halidame!
Should it not cure you, call me not my name.
[*Exit Stripling, happy.*

The sarsa and the liquorice,
Potassium iodide;
Some aqua chloroformi
All the nastiness to hide;
There's a hæmatinic remedy
To sell both far and wide.

Enter Page furtively, with note.

Ha! what have we here—a billet-doux,
Prescription, income-tax, or I.O.U.?
Be still, my fluttering heart!—'tis thy loved hand,
My beauteous Pestæla—at command,
Thy thrice-devoted slave doth bow and bend,
And read with eagerness what thou hast penned.

(*Reads.*) "Meet me to-night in the Acacian Grove,
And safe from prying eye we'll fondly rove;
There we'll discourse of True Ideal Life
(With pharmaceutic companies in strife),
Of maceration-tinctures, pill-machines
And active Federations, Council scenes
(Glyn-Jones the eloquent, by wise men shunned,
Disturbing dreamings of the Moribund!),
And haply we will, with the moon above,
Investigate the synthesis of Love."

Beshrew me! but the hours till then will lag.
Speed on, Mercurius—bear thou in thy bag
This missive to my love, and tarry not,
Or, by my halibut! by not one jot
Will I abate the trouncing thou shalt earn
If taint of tardiness I but discern.

Solo—Limitado.

Eyes of the Prussian blue,
Locks of peroxide hue,
Heart beating hopefully, madly;
Glance like a carboy's rays,
Zinc-white the anxious face,
Smiling to see me so gladly.
I shall not fail her,
My own Pestæla.

Soon 'neath the waving palm,
Love, like the glycerin balm,
Gentle, and soothing, and healing,
Hushes the fluttering fear,
Dries up the dismal tear;
O'er her contentment is stealing.
How could I fail her,
My sweet Pestæla? [*Exit.*

Scene II.—*The Acacian Grove.*

Enter Limitado *and* Pestæla.

Limitado. Then thou dost consent, my sweet?
Pestæla. I do,
To high ideal pharmacy adieu!—
It smacks too much of snobbery for me:
From its environment and trammels free
I'd fain be.

"Then you do consent my sweet"?

Limitado. Then it shall be so.
We'll hie to registrar and, bowing low,
Ask him to mate us forthwith.
Pestæla. Be it so.

Duet—Limitado *and* Pestæla.

Limitado. You shall help me to discover—
Pestæla. What, my own?
Limitado. Simple cure for distraught lover.
Pestæla. Menthol cone.
Limitado. Something subtle, searching, soulful,
Stimulating for the doleful,
And we'll sell it by the bowlful.
Pestæla. Bowl on loan?
Both. We will shun conventionality and style that's out of date,
Avoiding high ideals (when I'm married, love, to you):
They are risky things to live on, and for me, at any rate,
It is very, very certain they will never, never do.

Pestæla. I will help you to unravel
Limitado. Tangled skein.
Pestæla. All this problematic cavil
Limitado. There has been
Pestæla. 'Gainst the ways and means of trading,
Carried on with wanton wading
In the gore of truth, ere fading
Limitado. From the scene.
Both. We'll endeavour to apportionate the proper praise and blame
'Twixt the Tyro and the Cutter, giving each to each his due;
But this fond and foolish striving for a title, empty name,
I am absolutely certain it will never, never do.

[*They go off, but are confronted by* Mortario *and* Cruciabli.

MORTARIO. Stay! what means this? Sirrah, who art thou?
CRUCIABLI. 'Tis Limitado! Note his puckered brow,
Wrinkled with many calculations grim
Of patent prices, intricate to him.
MORTARIO. Our vilest enemy! Unhand the girl!
Alas! that I should see the sweetest pearl
Of pharmacy besmirched by touch of thee.
LIMITADO. Your pardon, sire, this maid belongs to me.
MORTARIO & } To thee! Gadzooks! Tell us, sweet Pestæla,
CRUCIABLI. } What mean the ravings of this scurvy fellow?

Trio—PESTÆLA, MORTARIO, *and* CRUCIABLI.

PESTÆLA. It means that I adore him,
And that *he*—loves—me;
And I beg, likewise implore, him
Just to set—me—free
From the stilted, stale stagnation,
And the deadly devastation
Of my grievous situation,
As it used—to—be.

MORTARIO & } She says she loves this gentleman,
CRUCIABLI. } And he—loves—her.
'Tis filling up our bitter cup
With gall—and—myrrh.

PESTÆLA. So now we go a-wedding
To the reg—ist—rar;
Nay! dry the tears you're shedding,
Simple hearts—you—are.
There's no question of evasion,
So just listen to persuasion:
Why not try amalgamation?,
It were bet—ter—far.

MORTARIO & } She suggests that we amalgamate;
CRUCIABLI. } A thing—ac—curst.
We'd rather than such bitter fate
Take strych—nine—first!

[*Fall despondingly each on a convenient mound and weep bitterly.*

LIMITADO. Come, pluck up heart, good sirs, and clear the way;
Let us combine as Pestæla doth say.
We'll float a company, elect ourselves
As managing directors, fill our shelves
With freshest drugs and finest chemicals,
And fit our pharmacies with marble halls
And while Mortario doth softly dream
In pleasant parlour lit by candle gleam,
The fair Pestæla powders neat will fold,
Or titivate the windows, making old
Worn perfumes look like new. E'en then,
Thou, Cruciabli, learned beyond our ken,
A well-appointed labor'try shalt own.
From whence derivatives of phenazone
Till now undreamt of shall come forth and shake
The scientific world. Thus we'll make
A little family party on the lines
Successful and traditional.

[*While* LIMITADO *is speaking*, MORTARIO *and* CRUCIABLI *gradually recover*.

Solo—MORTARIO.

For years I've studied pharmacy,
And swallowed Peter's platitudes,
And followed with amazing zeal
His views in various attitudes;
And now I'm old and feeble, and
Though still I've faith in some of it,
That faith is slowly waning,
For there's nothing ever come of it.

Solo—CRUCIABLI.

I opened with the High Ideal,
Worked it with consistency;
Starved and struggled day by day,
Got sicker with persistency.
Thought mine was the stupidest
Of schemes to make a rout of it,
Till Pomfret's Pilule came along
And knocked the stuffing out of it.

[*All join hands and sing together.*

Quartette and Finale.

So, giving every argument its due consideration,
At length we are reluctantly compelled
To own that, spite of ethics and the joys of federation,
'Twould be healthier our interests to weld.

"...let us be united in a strong amalgamation"

So let us be united in a strong amalgamation,
With the golden-crowned Pestæla at the head;
While the brainy Cruciabli, with his high examination
Gives the tone to Limitado, Limit-*ed*.

CURTAIN.

At the Counter.

FROM HAUGHTY HOXTON.—Mr. W. W. Cooper received the following requests recently:—"2*d*. of proxerone of gin"; "1*d*. Obert Hill dock."

FOR DRINKING OR POLISHING?—A West Hartlepool subscriber was recently asked the "Price for Ball Room Bovril, and how many yards will a certain quantity do?"

EAST END ORTHOGRAPHY.—A correspondent from Manor Park, E., submits two samples of the spelling of the neighbourhood. They are:—"Gumuacker," and "Peyth-seyne for indigstion."

IDIOSYNCRASIES FROM MATLOCK.—Written: Clamber root, stone of saleymonac, maccagoric, cloyde of lime. Asked for: Violin cream, cypher magnesia, Scott's emotion, Nerver's buntine.

READING RIPPLES.—Country Customer: "Bottle of Elliman's embrocation." Assistant (politely): "For human beings?" Customer: "No; for a young woman." Other orders include "1*d*. beeswacks" and "1*d*. canfer, 1*d*. boarak."

FROM EDINBURGH.—Mr. J. McGlashan, Dalry Road, Edinburgh, sends the following written counter-request:—"My wife has had an attack of dicarca or Looseness of the Bowells over which we have no controll, please give bearer something to stop it."

IN CHINA-LAND.—*Porcelain* writes from Shanghai:—

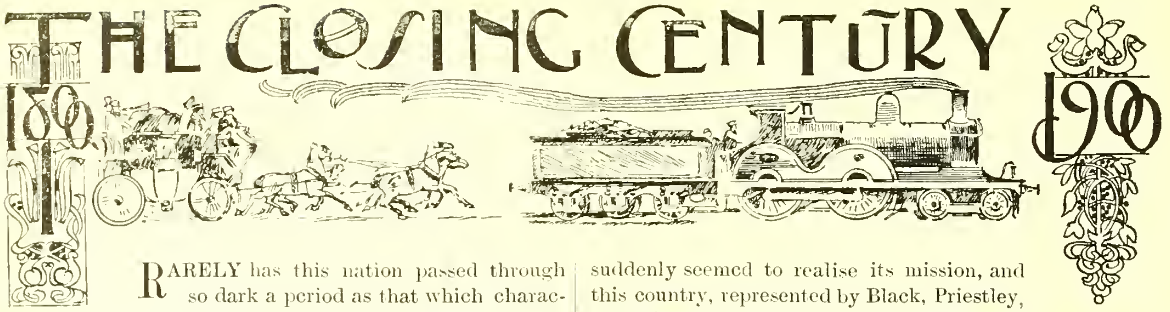
It is well known that the Chinese are very superstitious, some of them having ludicrous ideas regarding European medicines. On one occasion a customer saw an open box of castor-oil capsules, and hastily left the shop. When called back by one of the assistants, and asked to explain his conduct, he said "he did not like so many Englishmen's eyes looking at him out of that box: their spirits might haunt him."

Enter customer. "My wantchee some yaller piece English medicine; s'pose you putee topside soft iron he velly quick makee he hard steel." (Potass. pruss. flav. supplied.)

A young Chinaman in a missionary college sent the following:—

"Sir,—Having so bad a memory, I beg respectfully to ask you whether there is any remedy for it. If there is, I hope you will be kind enough to tell me its name, and I will come to buy it to-morrow.—Your obedient servant, FONG TSING SIANG."

THE CLOSING CENTURY



RARELY has this nation passed through so dark a period as that which characterised the close of the eighteenth century. The disastrous war with the American colonies, which ended in 1783, and seemed to threaten the position of Great Britain as a Great Power, was near enough to be vividly remembered. Our continental campaigns against the French Republican armies, commenced in 1793, had been miserable failures, and the expedition of 1800 had proved especially unfortunate. The weight of taxation had increased to a crushing degree; pauperism had grown to gigantic proportions; the ideas of the French revolutionists had spread throughout Europe, and millions of men, leading wretched lives, but beginning to feel that they had a right to a better share of the world's blessings than they had any chance of enjoying, were ripe for revolt. To crown all this misery, the harvest of 1800 was one of the worst of the century. Before the end of the year the quartern loaf had risen to 1*s*. 10½*d*., and an Act was drafted and passed early the next year forbidding altogether the sale of new bread, because stale bread went farther.

And yet at that very moment Great Britain had started on a career of such prosperity and power as had never dawned on any part of the world previously. The most far-sighted statesman of the time was probably unconscious of the fortune in store for his country, but the courage and cheerfulness with which the people fought their way out of the gloom which to some seemed to have eclipsed the star of England, constitutes one of the most heroic episodes of our rough island story. The war then in progress was to be brought to an inglorious end in 1802, but in 1803 the life-and-death struggle with Napoleon of twelve years' duration was to be commenced, this impoverished nation was to maintain armies in all parts of the world, numbering in all some 700,000 men, her fleets were to sweep the seas, and her possessions were to grow and be consolidated into an empire of such vastness as had never before been known to history. This Titanic work was hindered by laws which would have disgraced savages, but they could only delay, and were powerless to prevent, the prosperity which was developing. Between 1801 and 1821 the population of Great Britain increased from below ten millions to over fourteen millions, a greater advance than had been made during the whole of the previous five centuries. It was the inventors—Watt, Hargreaves, Arkwright, Cartright, Crompton, Wedgwood, and the contemporaries of these—who paid the cost of the French war and gave this impulse to British industry. But it was not the soldiers and sailors and inventors alone who served England so gloriously in the last years of the eighteenth and in the early years of the nineteenth century. A general awakening of thought, a clearer apprehension of the mysteries of Nature, and a juster appreciation of the relationship of men, seemed to spread over Europe at the epoch we are referring to. The French Revolution was only one of the manifestations of this inspiration. Science, which for centuries had been bound by superstition and limited by traditional theory, suddenly seemed to realise its mission, and this country, represented by Black, Priestley, Cavendish, and Dalton, took no mean part in the general enlightenment. Goldsmith, Cowper, Burns, Blake, Wordsworth, and Coleridge broke through the stiffness of our old literature, and led the way to more naturalness of expression. Hume, Adam Smith, and Grattan had sown the seeds of the free-trade movement. Wesley, Whitefield, Toplady, Newton, and Raikes had led the attack on the religious formalism which had prevailed in the churches, and Howard, Wilberforce, and Clarkson were beginning to rouse the philanthropic sentiment which was to become in a few years so mighty as to destroy West Indian slavery at a blow. Chastened by their misfortunes, the middle classes had become serious and earnest. The bucks and dandies and maccaronies of twenty years before were looked on with little favour in 1800. The gorgeous costume of the earlier part of George III.'s reign, the frills on the shirts, the lace on the waistcoats, and the powder on the hair, were suddenly discarded. Fox, who had himself been a leader of the dandies, now sat in Parliament in an overcoat and top boots, while Court-dressed fops surrounded him. Buckles on the shoes were the only bit of finery generally retained by merchants and traders, and this remnant of frivolity was fully balanced by the funereal cylindrical beaver hat which came into use about this time.

Such, very briefly, was Great Britain's critical position when this century opened. Of

THE PHARMACY OF THE PERIOD

there are but scant records, but we have evidence that many exceptionally good men were in its ranks when the century opened. It seems to have been a popular occupation for many of the Quaker families to apprentice their sons to, and the leaven of conscientiousness which they introduced no doubt had a great effect on the mass. Jacob Bell's "History of Pharmacy" gives a graphic description of the jealousy which prevailed between the apothecaries and the chemists and druggists in the last decade of the eighteenth century, and of the combination of the former into a society which under the title of the General Pharmaceutical Association of Great Britain was founded in 1794, and which aimed to suppress the "unjust and innovating usurpation of the druggists." It was alleged by the leaders of this organisation that if the profits which the druggists of the metropolis alone made by infringing the rights of apothecaries were divided among the latter as they should be, the incomes of the London apothecaries would be improved to the extent of 200*l*. a year each. The evil, it was added, had spread to every city, town, and hamlet in the kingdom. Many of the so-called druggists, so the apothecaries asserted, had had no classical education, and were incompetent to read a prescription or compound it; and yet they not only pretended to do these things, but even offered medical advice to their customers. The Association got as far as a petition to Parliament in 1795, but seems to have crumbled away soon after, leaving the druggists unhurt by their attacks.

Chemists and druggists had been climbing upwards all through the eighteenth century. It is surmised that the earliest of them had been trained in the dispensaries which a section of the physicians had established in London in competition with the apothecaries, who, they alleged, not only defrauded the public but competed with the authorised physicians themselves in giving medical advice. Those dispensaries were established about 1696, and existed, perhaps, for some twenty years. Gradually the men who had served in them set up for themselves, and in many cases secured the support of the physicians to whom they were known. The earliest mention of druggists occurs in the preamble to a new charter which the physicians tried to get from Charles II., giving them greater powers, and alleging the multiplication of "unskillful, illiterate, unlicenced practizers of physicke in and about the cittie of London," and also the "frauds, abuses, and deceits, of divers apothecaries, druggists, and others." The charter was opposed by the Society of Apothecaries and was never confirmed by Parliament. Just when the druggists began to call themselves chemists and druggists is not established. Bell's History hardly indicates the position they had acquired at the end of the eighteenth century. It would appear from that narrative that in 1794 they were still only a lower class of vendors of medicine. As a matter of fact, as we shall show immediately, they had in 1800 almost supplanted the apothecaries, at least in London; they occupied the best positions, and were evidently in favour with the public, as is shown by the frequency with which the apothecaries then styled themselves "apothecaries and chemists."

The first Post Office London Directory was published in 1800, "under the patronage of the Right Hon. Lord Auckland and the Right Hon. Earl Gower, his Majesty's Postmaster General." It professed to contain "A list alphabetically arranged of the Principal Merchants, Traders of Eminence, &c., in the Cities of London and Westminster, the Borough of Southwark, and the Parts adjacent." It is a small octavo volume of about 250 pages and gives between 11,000 and 12,000 names. It unconsciously furnishes material for numerous inferences which can be reasonably drawn from it. We trace the records of a few businesses to our own times, but there are many more items of historical interest than we have indicated known to some of our antiquarian friends. Notes concerning any of the businesses named below which we have omitted will be welcome. In these lists we quote the names and addresses of everybody named in the Directory of 1800 as connected with the drug-trade. The population of London at the time, it may be premised, was considerably under a million (864,845 by the census of 1801).

First we quote the names of those described as

Apothecaries.

It is surprising how few of these appear. Probably only those who kept an open shop are named, as the Directory did not concern itself with private, or to any great extent with professional, persons. A few solicitors appear, and a few surgeons, but no physicians. In any case comparison of this list with those which follow is conclusive evidence of the extent to which apothecaries had been superseded by chemists and druggists as vendors of medicine in this country a hundred years ago. Additional testimony to the greater popularity of the latter designation is furnished by the not infrequent use of the designation "apothecary and chemist."

Bagster, William, 8 Tower Street
Brown & Blathwayt, 225 Shoreditch
Buck, Thomas, 390 Strand
Ching, John, 4 Cheapside
Churchill & Sutherland, Great Queen Street, Westminster
Devaynes & Hingeston, 93 Cheapside

John Devaynes, Esq., was apothecary to his Majesty. He died on June 10, 1801, aged 75, and left 400*l.* a year to the Marchioness of Townshend, who was his chief patroness, and 50,000*l.* to his brother, Wm. Devaynes, M.P., at one time Chairman of the East India Company.

Griffith, W., 52 Brick Lane, Spitalfields
Hall, Thomas, 70 Watling St.
Lane & Co., 140 Aldersgate Street
Langley, Thomas, 11 Adams Court, Old Broad Street
Pilliner, Thomas, 9 Dartmouth Street, Westminster
Pratt & Marshall, Brewer Street, Golden Square
Price & Dyson, 36 Fore Street, Cripplegate
Pugh, John, 82 Gracechurch Street
Ryder, Thomas, 185 Oxford St.
Sandys & Fuller, Highgate
Savage & Taylor, 51 Bishopsgate Without
Sisum, William, 21 George Street, Hanover Square
Turney, John, Pudding Lane, Eastcheap
Upton & Co., 92 Cheapside
Wainewright & Tennant, 18 Pall Mall
Wells, Richard Strong, Ely Place, Holborn
Winfield, William, 98 St. Martin's Lane
Winterbottom, A., 29 Bow Street

Twenty-four apothecaries, presumably keeping open shop in London. The chemists and druggists, druggists and chemists, chemists, and druggists, were five times as numerous. The following appear as

Chemists and Druggists.

Adcock, Hornby & Pritchard, 140 Leadenhall Street
Adcock, Joseph, 25 St. Mary Axe
Addinell, J., & Co., 85 Bishopsgate Without
Amsden, Robert, 65 Wood Street, Cheapside
Atkinson, Joseph, 196 Bishopsgate Without
Barnham, Wm., 330 Oxford St.
Bennison & Co., 23 Aldersgate Street
Bickerstaff & Jones, 27 Aldgate Within
Biggs, W. H., 66 Leadenhall St.
Blunt, Robt. & Thos., 120 Blackman Street
Board & Jones, 89 Gracechurch Street
Brown & Cock, 40 Up. Thames Street
Brown, Geo., Queenhithe
Brown, Laurence, 347 Oxford Street
Bulmer, Fenwick, 173 Strand
Burkett, A. S., 29 Fleet Street
Bury & Westwood, 18 Newgate Street

Afterwards Wymans & Westwood, now amalgamated with J. Curling & Co.

Byerley, N., 105 Holborn Hill
Chamberlain & Humphries, 90 Fleet Street

Lineal ancestors of the present firm of Hodgkinsons, Clarke & Ward.

Chard, C., 21 Bread Street, Cheapside
Clifton, W., 3 Little Newport Street, Soho
Corbyn, Stacey & Messer, 300 High Holborn
Crawley, William, 32 Spital Square
Crow & Henley, 65 West Smithfield
Cundell, Henry, 47 Minories
Dickenson & Salter, 29 Poultry
Dobson, J., 30 Coleman Street
Elliotson, John, 106 Borough
Falwasser, William, 17 Haymarket
Forbes, William, 34 Blackman Street, Borough, and Croydon, Surrey
Forster, Thomas, 2 Old Bond Street
Fouch, William, 18 Norton Folgate
Freake, Arthur, 3 Tottenham Court Road
Fuller, John, 34 Piccadilly
Fynmore & Palmer, 65 Aldersgate Street

Later became Fynmore, Palmer & Pigeon, of Throgmorton Street, whose business has descended to Burgoyne, Burbidges & Co., of Coleman Street. Mr. Pigeon was the grandfather of the late Mr. Richard B. Barron.

Gent, James, 11 St. James St.
Hallett & Leese, 148 Fenchurch Street
Hanby, James, 30 Piccadilly
Hewlett, William, 28 Borough
Holdsworth, W. M., 80 Upper East Smithfield
Hooper, Benjamin, 9 Queen Street, Cheapside
Housfield, George, 11 Whitechapel
Jackson & Filmer, 181 Bishopsgate Without
Jacobson, H., 19 Fore Street, Cripplegate
Jaques, Charles Thomas, 86 High Holborn
Jolly, John, 88 King Street, Golden Square
Jones, Thomas, 13 Fish Street Hill
Jones, William, 66 Wardour Street, Soho
Jones, William, 24 Russell Street, Covent Garden
Jordan, Jonathan, 33 Whitechapel
Kernot, Joseph, 9 Bear Street, Leicester Square
Kerr & Batley, 79 St. Paul's Churchyard
Key, D., 10 Freeschool Street, Horselydown
Kinnard, William, 309 High Holborn
Kirk, John, 109 Cockhill, Ratcliff
Lewis, Thomas, 17 Bedford Street, Covent Garden
Louttit, W., 37 Fenchurch Street
Matraye, Frederick, 74 Drur Lane
Mathews & Cole, 57 Newgate Street
Mercer, Thomas, 87 Fleet Street
Midgley, G. D., 49 Strand
Mildred & Allen, 2 Plough Court, Lombard Street

Sannol Mildred became the proprietor of the business now known as Allen & Hanburys in 1794, succeeding one of the

Bevans, who had previously owned it. Mildred, who was apparently a wealthy man, took William Allen into partnership, and himself retired in 1797. Allen took Luke Howard into partnership about that time, and both Mildred & Allen and Allen & Howard appear in the Directory, the latter as druggists and chemists.

Monteath, J., 4 Gracechurch Street
Moore, J., 15 Russell Street, Covent Garden
Parkinson & Gale, 3 Newgate Street
Paytherus & Co., 136 New Bond Street

Mr. Paytherus's business was the original of Savory & Moore's. It became Paytherus, Savory & Co. early in this century.

Pears, Chas., 163 Borough
Penlington, W., Bridge Road, Lambeth
Perrin, Benjamin, 23 Southampton Street, Strand
Sanderson & Anderson, 172 Fleet Street
Sattersley, J., 26 White Lion Street, Shoreditch
Senior, H. C., 2 Beech Street, Barbican
Shakeshaft, George, 375 Rotherhithe Street
Sharpe, Kirke & Co., 95 Bishopsgate Within

Thirty years later this firm became Kirke, Hearon, McCulloch & Bright, and is now Hearon, Squire & Francis Limited).

Smith, Frederick, 29 Haymarket.

Brokers of the Period.

Frederick Smith was the chemist to whom John Bell was apprenticed, and who is mentioned in his biography as having encouraged him to take the Oxford Street shop. It is noteworthy that Mr. Bell's name does not appear in the Directory for 1800, though he started business in 1798. It occurs in the Directory for 1802.

Smith, Samuel, 113 Fenchurch Street
Soley, Thomas, 144 High Holborn
South, James, 272 Borough
Stable, John, 27 High Holborn
Steel, J. C., 15 Catherine Street, Strand
Stock, William, 22 Ludgate Hill
Stringer, Richard, 19 Strand
Turton, Benjamin, 61 Coleman Street
Tyce, John, 96 Fleet Market
Wade, John, 46 Cornhill
Walsh, F. C., 100 Strand
Watts, G., 478 Strand
Whitaker, Thomas, 68 Chiswell Street
Wilkinson, Reader, 58 Minories
Williamson, Richard, 104 Wood Street
Willis, Thomas, 342 Wapping
Wray & Co., 14 Birchin Lane
Yate, William & Richard, 157 Borough

Druggist and Chemist.

This designation appears occasionally. We do not suppose there was any distinction between that and chemist and druggist, but it is curious that the druggist and chemist, which now seems to us like the cart before the horse, is not unfrequently used in America to this day. We frequently receive letters from the United States addressed to "The Druggist and Chemist." The following are described as druggists and chemists in the Directory, 1800:—

Allen & Howard, Plough Court, Lombard Street
Elliot, Thomas, 37 Fenchurch Street
Falshaw, Pugh & Davis, 11 Old Fish Street
Hanrott, Burkitt & Winstanley, 7 Poultry

This business was taken over by Corbyn, Stacey & Co., in the fifties, and was only recently sold by them and moved to Bucklersbury.

Labrow & Son, 128 St. John Street
Speed & Usher, 90 Cannon Street

We find the following described simply as

Chemists.

Box, W., 29 Ludgate Hill
Farley, William, 146 High Holborn
Godfrey & Cooke, 31 Southampton Street, Strand
Grindle, J., chemist to the Prince of Wales, 2 Haymarket
Gristock, E., 66 Wardour Street, Soho
Hall, Mary, & Co., 107 Goswell Road

Described as Chemists and Drysalters.

Hamilton & Co., Old Ford
Hayward, Robert, 10 Ludgate Hill
Higgins, James, 193 Strand
Hume, Joseph, 108 Long Acre
Johnston, Robert, 15 Greek Street, Soho
Moore, William, 80 Fleet Street
Morgan & Wigham, 63 High Holborn
Peake & Co., chemists to her Majesty, 27 Haymarket
Rutherford & Morgan, 132 Ratcliff Highway
Towers, E., & Co., Baker's Row, Coldbath Fields

And the following designate themselves

Druggists.

Butler, W., 254 Borough High Street
Complin, Edward, 41 Bishopsgate Within
Graham, J., 35 Leadenhall Street
Gunn, Joseph, 137 Tottenham Court Road
Jones, David, 9 Norton Folgate
Parkes, Samuel, 268 Oxford Street
Penoyre, T. S., 57 Leadenhall Street
Pitkethly, James, 89 Wood Street, Cheapside
Plummer, F., 180 Shoreditch
Smith & Son, 20 Cheapside
Teise, Gerard, 6 Little Hermitage Street, Wapping
Unsworth, J., 9 Bear Street, Leicester Fields

Powell & Co., Edward Street, Portman Square, describe their establishment as a "medicinal hall," and Thomas Stevens, of the Royal Exchange, is given as "vendor of medicines." Butler and Smith in the above list are described as "druggists and tea-dealers."

Willis, Thomas, 26 Lime Street
Woolley, Francis, 18 Mount Street, Grosvenor Square

John Johnson, of 7 Maiden Lane, Wood Street, appears as an "assayer of metals"; and Thomas Jones, of 7 Star Alley, Ratcliff Highway, and John Maud, of 66 Aldersgate Street, are given as "chemists and refiners."

Wholesale.

The "drug-brokers" in the City had not in 1800 made Mincing Lane their centre as they have done in latter years. The neighbourhood of the *C. & D.* office was the abode of five out of the seven of them:—

Beton Boswells, 50 Watling Street
Bowden, Thomas, 1 St. Mary Axe
Edwards, John, Princes Street, Bank
Griffin, Stephen, 3 Maiden Lane, College Hill
Impey, William, 30 Bow Lane, Cheapside
Rodwell & Pistor, 26 Martin's Lane, Cannon Street
Withall, Caleb, 3 Mincing Lane. [Described as "drug and cotton broker."]

The wholesale druggists of the period are not in all cases so defined. We give them below as they are described in the Directory. Some wholesale men probably were included among "druggists," and it is possible that a few retail firms may be comprised in the subjoined lists:—

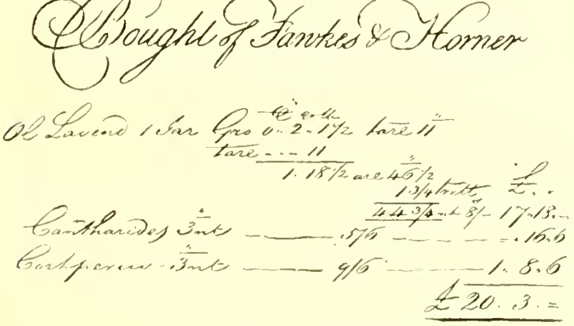
Bridge, Thomas, essence-of-spruce and drug merchant, 4 Castle Street, Birchin Lane
Bristow & Mousley, wholesale chemists and perfumers, 4 Cripplegate Buildings
Allder & Sandman, wholesale chemists, 64 Queen Street, Southwark
Clark, Lucas & Parkinson, druggists, 8 Barbican
Davy & Tarbut, 4 Gould Square, Crutched Friars

Bristow & Co., of St. James's Walk, Clerkenwell, wholesale perfumers, are the direct descendants of Bristow & Mousley.

Davy, we believe, was the original of Davy, Yates & Co. He had a partner later named Roberts, who separated from him, and whose business became subsequently that of Dalton & Young.

Duncan, William, drug-merchant, 3 Philpot Lane
Gattey, Joseph, & Co., druggists, 16 Cloak Lane
Hankey, Ralfe & Williams, druggists, &c., 220 St. John Street
Harris, Son & Taylor, druggists, 20 St. Paul's Churchyard
Harrison, Fawkes & Horner, drug-merchants, 20 Bucklersbury

This last firm became Fawkes, Horner & Fawkes later, subsequently Horner & Son. The firm moved some ten years ago to Mitre Square, Aldgate. Until they departed Bucklersbury had always enjoyed the scent of drugs. "Bucklersbury" (we read in Pennant's "Account of London, 1793") was, in the time of King William (III.), noted for the great resort of ladies of fashion to purchase tea, fans, and other Indian goods. King William, in some of his letters, appears to be angry with his queen for visiting these shops, which, it would seem, were sometimes perverted to places of intrigue. In the time of Queen Elizabeth this street was inhabited by chemists, druggists, and apothecaries. Mouffett, in his "Treatise on Foods," calls on them to decide whether sweet smells correct pestilent air, and adds that Bucklersbury "being replete with physick, drugs, and spicery, and being perfumed in the time of the Plague with the pounding of spices, melting of gum, and making perfumes for others, escaped that great Plague whereof such multitudes died that scarce any house was left unvisited."



Mr. John Jones London 24 April 1802

Bought of Fawkes & Horner

Ol. Lavend 1 Jar Gro 0-2-17½ tare 11
tare - - - 11
1.18½ are 46½
1¾ tratt
44¾ at 8/- 17.18.-
Cantharides 3nts —— 5/6 ——— .16.6
Cort. peru 3nts —— 9/6 ——— 1.8.6
£20.3.=

An Invoice of the Period.

Hernon, Langton, Harvey & Beckwith, druggists, Giltspur Street

Later Beckwith, Barrons & Harvey, and now Barron, Harveys & Co., always in the same place.

Jackson, Manley & Eldridge, druggists, 36 Paternoster Row
Jackson, Richard, druggist and annatto merchant, 16 Walbrook
Kempson & Yates, wholesale druggists, 40 King Street, Snow Hill

The late Mr. A. S. Hill described the last firm to us in 1897 from recollection as "a very large firm now extinct." It was the firm with which John Evans became associated about 1818, when it was styled Kempson, Yates Evans & Parkinson. John Evans subsequently seceded from this firm, and, uniting with a Mr. Stable, formed the firm of Stable & Evans, from which have descended Evans, Lescher & Webb and Evans, Sons & Co.

Maitland, Maitland, wholesale druggist, 3 Adam Street, Adelphi
Maxwell, Alexander, wholesale druggist, 1 Oxford Court, Cannon Street
Price, Wood & Co., druggists, Cross Street, Goswell Street
Strong, C. S., drug and wine merchant, 4 Pancras Lane
Taylor, David & Sons, druggists, 46 Finsbury Square
Wade, Thomas, drug-merchant, 3 Great St. Helens
Wilson, Hodgkinson & Minshall, druggists and chemists, 87 Snow Hill. [This firm was the direct ancestor of Hodgkinson, Prestons & King.]

H. Dawson, Little Bartholomew Close, owned a mustard and drug mill; and Pyke & Cox, 29 Witecross (*sic*) Street, are described as druggists and drug-grinders.

The following businesses are described as

Medicinal Warehouses.

Barclay & Son, 95 Fleet Market
Always 95. The address became 95 Farringdon Street, and when the firm moved across the street they took the number with them, much to the confusion of people who want to find a neighbouring number.
Chase, S., & Son, 31 Duke Street, Smithfield
Ching & Butler, 4 Cheapside
This firm became Butler & Crispe, and occupied the address at 4 Cheapside until some twenty years ago. Nicholsons, the drapers, are now on the same spot.
Daniel, Francis, 102 Wapping
Dicey & Beynon, Bow Churchyard
Now Sutton & Co. The firm migrated to Chiswell Street a dozen years since.
Ford, Robert, 39 St. Martin's-le-Grand
Mr. Ford was also a wholesale druggist.
Green, William, 132 Oxford Street
Howard & Evans, 41 and 42 Long Lane, Smithfield
Marshall, John, 21 Hart Street, Bloomsbury
Newbery, Eliza, 21 St. Paul's Churchyard, appears in the list, but is only described as bookseller and stationer.
Pidding, James, 76 Oxford Street
Swinney, John, 21 Pall Mall
Williams Thomas, 80 Aldersgate Street
Wye, John, 59 Coleman Street

Richard Walsh, 6 Catharine Street, who probably carried on a business similar to the above, is the only one who describes his place as a patent-medicine warehouse.

Among the

Proprietors of Medicinal Specialities

in popular use at that time the following appear in the Directory:—

Burchill, Basil, anodyne-necklace maker, 79 Long Acre
Godbold, Nathaniel, proprietor of the vegetable-balsam, 3 Bloomsbury Square
Godfrey, Benjamin, cordial-warehouse, 61 Bishopsgate Without
Hayman, J., proprietor of Maredant's drops, 37 Golden Square
Hern, J., & Co., Stoughton's Elixir warehouse, 63 Threadneedle Street
Swainson, Isaac, & Co., Velno's Vegetable-syrup warehouse, 21 Frith Street
Swinton, A. D., Daffy's Elixir warehouse, 196 Fleet Street

It is noticeable that no pill-maker figures in this list. Mr. Alpe quotes from the *Gentleman's Magazine*, 1748, a long list of the proprietary medicines then in vogue and their prices. Out of two hundred there named, only fifteen were pills. Godfrey's cordial was originally made in Newcastle; Godbold's balsam was patented in 1785, and professed to contain fifty-two ingredients. Maredant's drops were patented by John Norton in 1764, and Velno's vegetable syrup by John Burrows in 1772. Dr. Daffy's elixir and Mr. Stoughton's stomach-bitters both figure in the 1748 list. Daffy was probably an Ipswich man and Stoughton came from Bath.

Mineral-water Warehouses.

Under this designation we find the following:—

Griffiths, John, 27 St. Albans Street

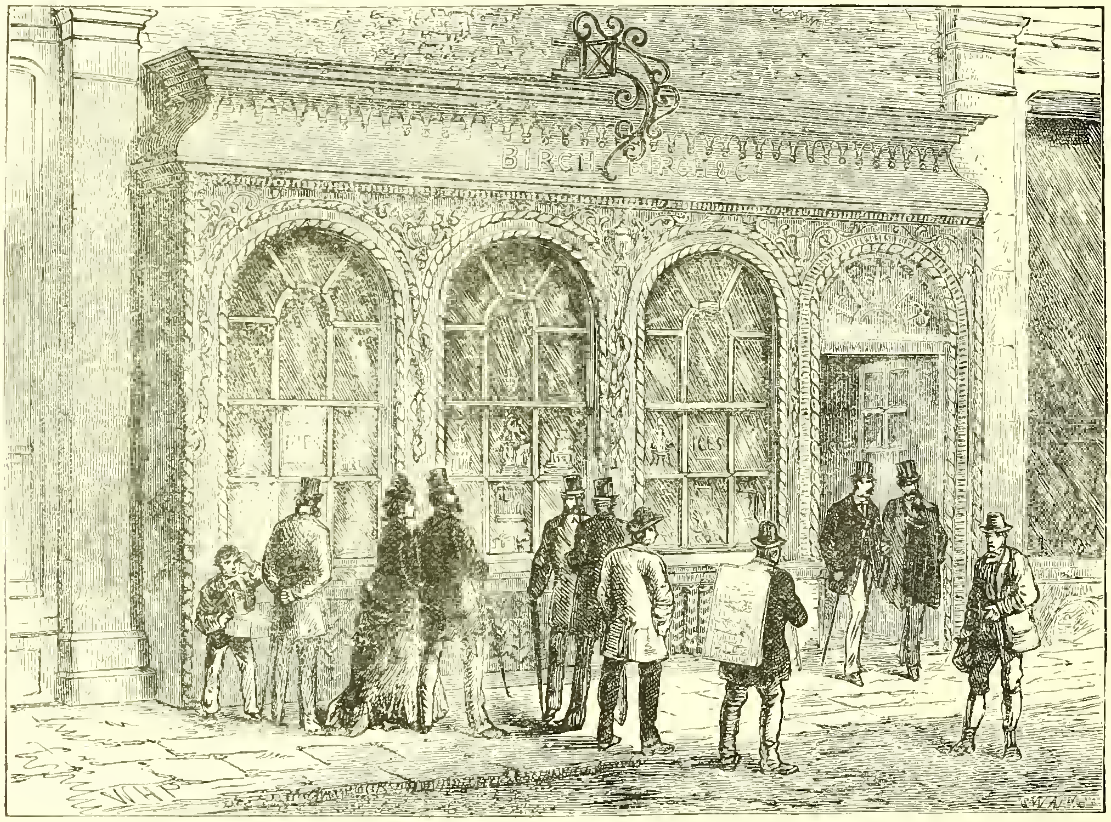
Sweepe & Co., 75 Margaret Street, Cavendish Square

This seems to be an Anglicised version of the old firm of Schweppe & Co., who were certainly in the neighbourhood at the date. The company have an old bill-head of J. Schweppe & Co., 11 (not 75) Margaret Street, Cavendish Square, dated September 3, 1798, for 1 dozen ½-pints seltzer-water, 4*s.*

Watkins, John, 11 Fleet Street

Some other firms whose descendants are familiar to present-day druggists may be quoted from this 1800 Directory. We find:—

Beaufoy, Biddle & James, vinegar-merchants, Narrow Wall, Lambeth
Bowerbank & Hebert, distillers, Sun Street, Bishopsgate
Champion, Thomas, vinegar-merchant, Old Street, City Road
Cleaver, Samuel, soap-maker, White Hart Yard, Drury Lane
Farmer, Richard, oil-of-vitriol maker, Kennington Common
Hendrie & Son, wholesale perfumers, 13 Tichborne Street, Piccadilly
Low, Robert, wholesale perfumer, 150 Drury Lane



Pharmacies of the Period were like this.

Drug-trade Mortality.

It is remarkable how very few firms, comparatively, in any line of business manage to exist for a century; and those which remain in a single family during that period are extremely rare. We cannot on this occasion attempt to trace the drug-businesses of Scotland, Ireland, and the provinces through the hundred years, but in order that we may be able to do so in the course of the current twelve months, we shall be obliged to any correspondents who will favour us with details concerning businesses which can put in a claim to centennial glory.

At the time we are writing of, chemists and druggists were neither privileged nor hampered by special legislation. Anyone, with or without training, might open a shop and style himself "chemist and druggist." But there is no evidence that any except men who had passed through long apprenticeships, and had afterwards gained experience as assistants, thought of so doing. Indeed, it was not until the law expressly forbade the use of the title to unqualified persons that unqualified persons began to yearn after it. There was no Sale of Food and Drugs Act; adulteration was recognised as only a form of competition. There were no Shop-hours Act, no Trade-mark Acts, no Merchandise-marks Acts interfering with a commercial employment of the imagination. There had been comprehensive Medicine-stamp Acts in force since 1783, but until 1802 "any surgeon, apothecary, chymist, or druggist who had served a regular apprenticeship" was exempted from their operation to the extent of being allowed to sell compounded medicines not nostrums. Indeed, the old Acts were partly intended as a protection to the public against illegitimate-medicine vendors. That nostrums were abundant at the time is evident from contemporary advertising-mediums, and also from the schedule to the Act of 1802, which specifically named 530 of them.

Immunity from legal harassment did not extend to taxes. The burden of taxation grew at a great rate in those years. From 1790 to 1815 every 100*l.* of revenue was increased to 450*l.*, and it has been estimated that the cost of living was doubled in that period. This has to be borne in mind when we see scraps of old druggists' charges, such as a dozen draughts at 1*s.* 6*d.* each. Almost every foreign drug was specifically taxed by the Customs when it came into the country, and many of them at varying rates, according to the country of their origin. In 1815 nearly 1,400 different articles were named on the British Custom-tariff. Many of these realised sums amounting to a few shillings only per annum. It is impossible for this generation to realise the cost in time, temper, and money which must have been involved in the collection of such taxes. It often became a question whether it were not better that a drug which had been damaged on the voyage should be landed or pitched into the sea to save the duty.

The convex shop-windows, with their small panes of glass, which were general in 1800, must have had rather a pretty effect. The chemists universally displayed the bottles of coloured water with alchemical symbols on them, which no doubt went a long way towards establishing their status. Not many of these old shops are still in existence. Birch's in Cornhill (where the turtle soup comes from) is said to have passed through the century unchanged in appearance.

The stock of medicines kept in the pharmacies of this time was more like that of the *Pharmacopoloi* of Galen's day, than that from which we now dispense. Paracelsus and Van Helmont had intervened, it is true, and had made mineral medicines popular; but since their day Peruvian bark had been almost the only new drug of real importance which had been introduced. With the new century new medicines came apace. Quinine, morphia, all the alkaloids, iodine, bromine, glycerin, cod-liver oil, chloroform, were among the most prominent novelties of the first half of the century; while in our own time the synthetics, the antiseptics, and the physiological remedies have gained their footing. Then there have been the multitude of new forms of medicines, the scale preparations, the effervescents, the fluid extracts, the homœopathics, the capsules, the compressed tablets, and the coated pills, to say nothing of the private specialities which we are told are now demoralising pharmacy. Take all these things out of a chemist's stock, take away the chemicals used in modern arts and sciences some of which, if not all, he has to keep, take from him his journals, his local and general associations, his grievances generally, and the scores of openings for his energies which present themselves nowadays, and we get some idea of the position of our predecessors of a hundred years ago. Their advantages over us were very few, but they bore their part in the battle of life manfully; they were emerging victoriously from the struggle for the right to exist, and they established the position we now hold by solid hard work, by patient ability, and by personal integrity.

Oil of Limes.

By Ernest J. Parry, B.Sc., &c.

The differences between the expressed and the distilled oils of limes, although sufficiently pronounced to account for a considerable divergence in market value, are by no means understood chemically.

The expressed oil has a sp. gr. of 0·873 to 0·885 as against 0·856 to 0·868 for the distilled oil, and the optical rotation of the former is usually a few degrees lower than that of the latter. The only difference in the constituents hitherto suggested is the presence of citral in the expressed oil. It is quite clear, however, that the presence of citral is not the determining-factor between the two oils, nor, indeed, can it be regarded as the sole oxygenated constituent of the expressed oil. The following preliminary experiments have been undertaken in order to investigate the actual differences between these two important oils.

About 1 litre of each was distilled under a pressure of 15–20 mm. in order to remove the terpenes present. Each was concentrated to 50 c.c. in this manner. The resulting oils remaining in the stills possessed in an intense degree the characteristic odours of their parent oils, and had very different physical characters, as follows:—

Residue from	Sp. gr. at 15·5°	Rotation (100 mm.)
Expressed oil ...	0·8959	− 8° 38′
Distilled oil ...	0·9202	− 2° 12′

The characters, as well as the odour, of the former of these are quite in accord with a high percentage of citral (sp. gr. 0·8977, rotation ± 0°); but the figures found in the second case indicate the presence of about 5 per cent. of some hitherto unrecognised high-boiling constituent.

The residue of the expressed oil was freed from citral, of which it consisted to the extent of nearly 65 per cent. Tiemann's absorbent (sodium sulphite and sodium bicarbonate) was used for this purpose, and the last traces were removed by sodium bisulphite. The citral was identified by heating it with pyruvic acid and β-naphthylamine in alcoholic solution for two hours, when the characteristic yellow crystals of citryl-β-naphthocinchoninic acid, melting at 197°–198°, were obtained.

The remaining oil, freed from all traces of citral, had a sp. gr. of 0·9084 and optical rotation −21° 16′. It required 3·4 per cent. of KOH to saponify it, thus indicating the presence of a certain amount of esters. The mixture of alcohols and unsaponifiable bodies present was separated, and by distillation under reduced pressure a few drops of a liquid, which was almost certainly geraniol, could be obtained. The quantity, however, was too small to identify with certainty. What the highly optically active body present is could not even be indicated, on account of the small quantity now remaining.

The residue of the distilled oil from which the terpenes had been removed possessed the characteristic sharp odour of the original oil. It was treated with sodium sulphite, but only a very small quantity was extracted, in which no citral could be detected, and the oil after treatment with sodium sulphite and bisulphite had scarcely altered in odour, and had a sp. gr. 0·9293 and a rotation −3° 6′. Alcoholic potash had very little action on it, and after this treatment it had scarcely altered its odour at all. It boiled at 210°–220° C. at ordinary pressure with some decomposition.

I intend to work on much larger quantities of the two oils, with a view to elucidating the nature of the esters present in the expressed, and the high-boiling constituents (hydrocarbons ?) present in both, oils.

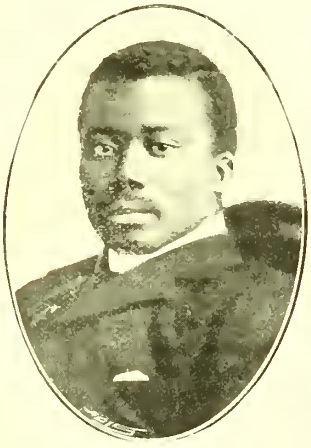
Labels for China.—About two years ago we published an article on "Labels and Trade-marks for China," showing how important it is to study the idiosyncrasies of the Chinese with regard to labels. Since then the Prussian Secretary of Trade and Commerce has published a paper on the subject, his remarks generally bearing out what we have already published. He says:—"Some articles are regarded as distinctly European in China, and may safely be presented in wrappers of European pattern. Others, not exclusively manufactured abroad, must be sent with wrappers and labels to suit the tastes of the natives. Glaring colours should be used, especially green, light blue, and red. Chinese ideas of humour must be taken into consideration. Thus, the tiger is a very popular label, but he must not be represented as he is. He should be presented with an extraordinarily long body, enormous tail, and in all sorts of fantastic attitudes. Another very popular figure is the ape. Pictures of umbrellas, temples, tobacco and opium pipes, ships, and flags are also popular, as well as scenes depicting parades, weddings, &c."

From Other Climes.

ELSEWHERE in this issue we refer to the classic work on essential oils which was recently published at the instance of Messrs. Schimmel. One of the authors is Dr. Frederick Hoffmann, who, we understand, did the historical part of the work. Dr. Hoffmann is a man of cosmopolitan interests. He resided for many years in the United States, but retired to Berlin a few years ago. He was born at Wriezen on the Oder, and as a youth was apprenticed to an apotheker, afterwards studying at the University of Berlin. Passing the State examinations for the apotheker diploma, he continued his university studies until he obtained the Ph.D. degree. Dr. Hoffmann went to New York in 1862 and was engaged as chemical expert in an aniline lawsuit. In 1866 he bought a pharmacy in New York, and conducted it successfully for sixteen years, at the same time doing much analytical, microscopical, and literary work. His handbook, "Examination of Medicinal Chemicals," first issued in 1872, has passed through several editions. From 1880 to 1882 Dr. Hoffmann served as expert chemist to the New York State Board of Health. In 1882 he undertook the publication of the *Pharmaceutische Rundschau* of New York, which he continued until his retirement. While in the United States he did much to bring the Pharmacopœia of the country out of the rut which it had got into, and to place it on the thorough scientific basis which is outlined in the article beginning on page 127.

Dr. F. Hoffmann.

At the time that Major Ross went out to Sierra Leone to find the malarial mosquito, one of the druggists of Freetown (where he spotted it) was in London making arrangements for starting a few branch-shops out there. This was Mr. Samuel Williams, of Freetown, Sierra Leone, whose portrait we print here. When in London Mr. Williams called to renew his subscription to The Chemist and Druggist, and, being a fearless gentleman, he looked into the Editor's room to shake hands. We had a pleasant ten minutes' chat with him about pharmacy in Sierra Leone, which is governed by an Ordinance that requires all who desire to start in business there to pass a rather stiff examination. Mr. Williams has done so, and would like to take the Minor if his business would allow him. He knows the malarial mosquito, and has followed all that has been said about it in the *C. & D.* We gather from a letter which we had from him the other day that Freetown has not become excited by its distinction as an *Anopheles* breeding-place, and that the extinction of the insect may bring some grist to the drug-mill.



Mr. S. Williams.

During the past three sessions the Chemical Society has received a number of communications on nitrites from a distinguished native of India who is one of our constant readers—Dr. Prafulla Chundra Ray, professor of chemistry in the Presidency College, Calcutta. He is a graduate in science of the Edinburgh University, and, in addition to his work as a teacher, has been associated with Professor J. C. Bose in founding the Bengal Chemical and Pharmaceutical Works, Calcutta. Much of his work on the nitrites has sprung from Dr. Ray's association of theoretical with manufacturing chemistry, the preparation of spirit of nitrous ether, with its many intricate reactions, being one of his firm's specialities, but his Chemical Society papers are based upon work done in the Residency College laboratories. Dr. Ray is also of an antiquarian turn, and has recently completed a translation of a Sanskrit fourteenth-century work, which shows that five centuries ago it was known in India that blue vitriol contained copper, a fact not known in Europe till the end of the seventeenth century. He has also commenced "A History of Hindoo Chemistry," which will bring out many facts but little known in Europe.

Professor P. C. Ray, D.Sc.

Having skipped our subscription-books and the globe from Berlin, and the West Coast of Africa to India, we come back to Europe and the marvellous city of Buda Pesth, to make the acquaintance of a pharmacist who reads our language, and who has occasionally contributed to our columns, Mr. F. Detsinyi. We received from him as a New Year's card the score of a waltz which he has composed. We cannot name it, for we do not read Czech; but it goes beautifully, and it has about it a musical quaintness which charms the ear. There is an excellent opportunity for such as Mr. Detsinyi (and there are a few amongst our subscribers) in the operatic libretto which is printed on another page.

Mr. F. Detsinyi.

These portraits have come together accidentally. Now that they are together they strike us as being a happy example of the universality of the interests which The Chemist and Druggist has to serve every week, and they reflect in a measure its influence outside the United Kingdom.

Trade-Marks in Cape Colony.—Messrs. Carman & Workman, chemists, of Woodstock and Salt River, Cape Colony, are registering a trade-mark, consisting of a designed label, for a prepared infants' food.—Messrs. A. J. Coleman & Co., of Cape Town, are registering a trade-mark, consisting of an arum-lily plant, in respect of substances used in food.

Observations and Reflections.

By Xrayser.

"Deadlock" is the word by which the Editor has described the situation in the Pharmaceutical Council in reference to the company question. It is a question whether this term is not an almost too amiable one to use under the circumstances. It implies that at least two policies are being earnestly contended for, and that so far no way of compromise has been found. Is this the meaning of the President's statement that "We cannot report if there is nothing to report"? That can hardly be, for if such were the case there would be something very definite to report, and something which ought to be reported.

* * * *

The Loyalist's Explanation.—In my perplexity I went to a friend whose faith in the wisdom and courage of the Council never wavers, no matter how severe the strain which is put upon it. Just now he is an earnest student of the military experts' columns in the daily papers. "You may depend upon it," he told me, "the Council are developing a forward movement which they do not wish to disclose to the enemy at present. The President's letter to Mr. Ritchie, I take it, was not much else than a feigned frontal attack, but meanwhile Carteighe and Hills are preparing to outflank the foe on the right and left, and when the session opens you will see we shall have the Lord Chancellor and his allies the companies appealing for terms. Did not our President suggest the same idea when he told us we must trust our generals!" I complimented my friend on his insight, and marvelled at his faith, which, however, I regret I cannot share.

* * * *

Meant what he Said.—I am afraid the President meant just what he said. The Council cannot report because they actually have no policy and do not mean to have one. They will give the Government advice if the Government asks for it, but otherwise they will stand on their dignity. Is this what their constituents expect or desire? In 1898, when the Pharmacy Bill was before Parliament, we were treated to a great deal of tall talk about the trade uniting, rising in its sublime wrath, and dictating its will to a trembling Legislature, or words to that effect. The opportunity of a life-time is before the Council now, and twenty out of twenty-one of its members are anxious to let it pass. What is the strange influence which hypnotises these gentlemen?

* * * *

Augustus Cæsar was one of the astutest and most capable of rulers the world has ever known. Suetonius relates many incidents of him which reveal his character. One of the Emperor's difficulties was to get the Senate to assist him intelligently in the task of governing his mighty dominion. He encouraged his counsellors in every way to think for themselves. He never objected to the severest criticisms of his own proposals, and, in order to extract the maximum of advice from them, Suetonius states that in important discussions he would often depart from the usual order of calling upon the senators for their advice, and would name some of the most obscure ones to speak first. His object was to get the majority out of the habit of leaving a few to think for them. This is not a paragraph which has gone astray from the Students' Corner. It is in its proper place.

* * * *

The Weed-killer Case in the High Court last week can hardly have been accurately reported in any of the papers. It is inconceivable that a counsel who knew his business would cite Templeman *v.* Trafford or the Wheeldon case to prove that the florist who never handled the poison was in law the seller. Those two cases both go to show that the law holds that the person who actually handed over the poison to the purchaser was the seller. In this case, if anybody handed over the poison to the customer, it was the Boundary Chemical Company. But counsel might well have quoted the Wheeldon case to show that, though the florist did not actually sell the poison, he did keep open shop for this purpose (among others) of selling an arsenical weed-killer. This, I presume, must have been his argument, and it seems a pretty sound one. The *Law Times*, in briefly reporting the case, names the keeping open shop for the sale of poison as the offence alleged. But if this was Mr. Crump's contention, it is quite clear that the Judges did not grasp the distinction between keeping open shop and selling, for their decision was based on the view that the defendant did not "sell" the article.

* * * *

These Humble Comments are certainly not worth plagiarising, so it must be a curious coincidence that one of them is almost textually reproduced in *Notes and Queries* of January 20. A paragraph in the *C. & D.* of December 23, 1899, referred to a nerve-tonic vendor who told a County Court Judge that he described himself as "Doctor" because he was so christened. The following extracts from the *C. & D.* and *N. & Q.* paragraphs may be compared:—

C. & D., December 23, 1899.	*N. & Q.*, January 20, 1900.
The parents of the nerve-tonic man who told Judge Parry last week that he called himself "Dr." not because he had the degree, but because he was christened Doctor, must have been endowed with remarkable foresight. Possibly the nerve-tonic formula was a family heirloom. But their christening-scheme suggests a pleasing method of upsetting social distinctions. . . . What would become of our old nobility if the proletariat generally should choose Sir William, Marquis of, and Lady Emily as the usual Christian names of their offspring? Judge, or even Lord Justice, might be selected without infringing any known statute.	Plaintiff's parents must have been endowed with remarkable foresight to have christened their son Doctor. Possibly the nerve-tonic formula was a family heirloom; but in any case their christening scheme suggests a feasible manner of upsetting social distinctions, for the title of Sir, Marquis of, Lady, Judge, or even Lord Justice, might be selected without infringing any known statute.

The *N. & Q.* paragraph is signed "Chas. F. Forshaw, LL.D." It is grateful and comforting to have my legal opinion endorsed by an LL.D. But is there not a Chas. F. Forshaw on the register of chemists as well as on the legal roll?

* * * *

The Registration of Trade-marks has taken a lively development since the House of Lords decision accepting "Solio" as an invented word, regardless whether it was descriptive or not. The Comptroller is evidently disposed to give word-inventors a liberal supply of rope, with the result that we are laying up for ourselves an abundant provision of future law-suits. Here is a firm allowed to register "Bluine," though they modestly disclaim monopoly in the word "Blue." "Scurfgofus," "Linoxyd," "Sanochinol," "Antiverm," "Equisan," and "Oxo" are other words all reported in the *C. & D.* lists as appropriated. Note how these will work out. The word "Oxo" is registered by the Liebig Company, who disclaim "Ox." They, of course, cannot claim "O" either, so it is the particular combination of "Ox" and "O" in which they acquire a property. But what will they say if I take "Oxa," or "Oxi," or "Oxu," or even "Oxine" or "Oxol"? This is where the litigation will come in, and unless the Courts are very strict the result will be practically to confer a monopoly in such words as "Blue," "Sano," "Ox," &c., disclaimed though they may be.

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Editorial Comments.

We give our poet place this week in dealing with the company-question. He is of the philistinic order, one of those who think that company-pharmacy will settle itself if left to itself. The changes which absorbed Cruciabli, and gave

Mortario a peaceful old age, are those which such optimists believe in. There are a large number of pushful Major men of that way of thinking—but to comment on Cruciabli's fate were to paint the lily.

Phenol Proclaimed. The principal topic of the week has been the proclamation by the Queen regarding the exportation of phenol, cresol, and their derivatives. Day by day it has become increasingly apparent that the proclamation is causing very great inconvenience to the chemical trade, and the export drug-business is also seriously affected. The Chemical Section of the London Chamber of Commerce (including representatives from the wholesale drug-trade) have joined with the Tar-distillers' Association in an appeal in the first instance to the Customs. and later, if necessary, to the Treasury, in order to get some easement in the stipulations as to exportation. The total prohibition is a critical circumstance, and further inquiry strengthens the view which we expressed last week that it has been decided upon without adequate consideration of the interests involved. There are two aspects of the question —commercial and political. So far as the former is concerned, it is pretty certain that we are on the brink of the loss of an industry, and the creation of its equivalent in Germany by the synthesis of phenol from benzene. There are several methods of doing this, perhaps the simplest one being to act upon a boiling mixture of benzene (C_6H_6) and aluminium chloride with dry oxygen, when an oxygen atom slips into the benzene molecule, converting it into carbolic acid, $C_6H_5{\cdot}OH$. German firms have been waiting for the requisite incitement to start such synthetical manufacture as this, and now they appear to have got the start. Within three months the necessary plant may be complete, and the beginning of the end of another British industry may have started. The political side of the question was dealt with by Mr. S. B. Boulton in his speech at the Chamber of Commerce on Monday. We need not accentuate the significance of that utterance; the circumstances are altogether too grave from a national point of view for public discussion, and we set this aside as an addition to Pall Mall shortcomings which await national attention when we have emerged from the present crisis.

Pharmacy Act Defence. "Xrayser" questions whether the Pharmaceutical Society's counsel in the weed-killer agency case could have been so ill-advised as to take the decisions in the Templeman *v.* Trafford and Pharmaceutical Society *v.* Wheeldon cases as supporting his contention that the Worcester florist had infringed the Pharmacy Act. That is exactly what took place in the County Court, and Mr. Grey, who then appeared for the Society, was with Mr. Crump, Q.C., in the Court of Queen's Bench. The decisive manner in which the two Judges in the High Court brushed aside the arguments advanced on the Society's behalf was a reflection upon the weakness of the case—as presented to the Court. Before the Pharmaceutical Council proceed further with the matter it would be advisable to reconsider their position, and to get an independent legal opinion upon the whole circumstances of the case and the manner in which it should be presented to the Court of Appeal.

Advertising Dentists. For some time those who look after the interests of dentists who are qualified by examination have been working to cripple the practice of those who were registered as being in practice before the Act. The latter practitioners, not being bound by any undertaking to a qualifying-body not to advertise, in some cases make liberal use of the customary trade-methods of advertisement. At the last meeting of the General Medical Council the case of one such dentist was considered, with the view of moving that his name should be removed from the register for infamous conduct in a professional sense; but the victim apologised in time, and the case was carried over. The Council of the Royal College of Surgeons, England, have now joined in the crusade, and at their meeting last week passed the following resolution :—

> The Council of the Royal College of Surgeons of England have to inform the General Medical Council that their attention has from time to time been called to the conduct of certain persons whose names are entered on the Dentists' Register with the description "In practice before July 22, 1878."
>
> The persons in question adopt such titles and descriptions as "R.D.S.," "R.S.C. Eng.," "R.D.S. Eng.," "R.D.S.E.," "Registered by the Royal College of Surgeons," thereby causing it to be inferred that they are connected with this College or the Scotch or the Irish College of Surgeons, and thus infringing the privileges of the licentiates in dental surgery of these Colleges.
>
> The Council are of opinion that such conduct should be considered "disgraceful conduct in a professional respect," and that the persons in question should be deemed to have rendered themselves liable to removal from the Dentists' Register under Section 13 of the Dentists Act, 1878.
>
> The Council desire to call the attention of the General Medical Council to an advertisement wherein a dentist who is on the register because he was in practice before July 22, 1878, is described as "R.D.S.E. (registered by the Royal College of Surgeons), surgeon-dentist."
>
> The Council have to state that this gentleman is not a licentiate in dental surgery of the Royal College of Surgeons of England, and they beg to request that the General Medical Council will cause inquiry to be made as to whether he is a licentiate in dental surgery of the Royal College of Surgeons of Edinburgh, and, if it should be found that he is not, that the General Council will then call upon him to cease using a description implying that he is a licentiate in dental surgery of one of those two Colleges.
>
> The Council further trust that the General Medical Council will take steps to make it known that the use of such misleading descriptions by persons registered under the Dentists Act will in future be regarded as "disgraceful conduct in a professional respect," and will render those using them liable to have their names erased from the Dentists' Register under Section 13 of the Dentists Act, 1878.

It is surprising that the Royal College have waited so long before they have protested against the use of the descriptive titles mentioned in the foregoing. The titles, in addition to being pretentious, are silly, especially those in which the letter E. and the contraction Eng. occur, since registration in any part of the kingdom as having been in practice before the Act is in no way different from registration in the other parts, and confers no distinction on the individuals. The L.D.S.Eng. is, however, more highly esteemed than the Scotch and Irish licences, perhaps unreasonably; still, it is the case, and those gentlemen who use R.D.S.Eng. apparently desire to share a reputation which does not belong to them. We sympathise with the Royal College in their effort to stop this practice. It may also be questioned whether registered dentists who do not hold a licence from one of the Colleges of Surgeons have the right to use the title surgeon or the abbreviation S. in connection with dentistry. The titles mentioned in the Act are "dentist" and "dental practitioner." If the Colleges had been smart, they might have had it decided long ago whether a registered dentist without a licence can call himself "surgeon-dentist" or not. The question of the removal of a person's name from the dentists' register for advertisin gis quite a different matter. It has been pointed out by the Court of Queen's Bench that the General Medical Council's power under Section 13 refers to grave reasons for disqualification, which are—(1) felony or misdemeanour; (2) infamous or disgraceful conduct in a professional respect; and (3) request by any of the medical authorities (in respect to their licentiates). It is specially provided that a name shall not be erased for an offence which, though within the provisions of the section, does not, either from the trivial nature of the offence or from the circumstances under which it was committed, *disqualify a person from practising dentistry*. This provision ought to be sufficient defence, if competently presented to the General Medical Council, to any charge that advertising by registered dentists (not licentiates) is one of the reasons for disqualification contemplated by the Act.

The B.P. as a Standard. There was a significant bit of conversation about the B.P. between Professor Thorpe and Mr. Cassal, the Kensington analyst, at the Food Preservatives inquiry last week, which we wish to put on record. It was as follows:—

> Sir Herbert Maxwell (Chairman) asked Mr. Cassal: Is there any definition of poisons or drugs?
>
> Witness (Mr. Cassal): Not as far as the Sale of Food and Drugs Act is concerned.
>
> Professor Thorpe said that its presence in the British Pharmacopœia would define a drug.
>
> The Chairman: Is there any corresponding definition as to poisons?—Not as far as the Sale of Food and Drugs Act is concerned. I believe there are definitions of poisons in the British Pharmacopœia.
>
> Professor Thorpe: Brandy is in the British Pharmacopœia, but it is not a drug.
>
> Witness: There are a number of things in the British Pharmacopœia, like brandy, which some people would regard as drugs, but which others would not. Honey is there also.
>
> The Chairman: Is there a specified dose for brandy? (Laughter.)
>
> Professor Thorpe said he did not know that, but it was defined.

As it happens, there is not a specified dose for brandy except in the form of the mixture, and there it is under 1 oz. Professor Thorpe's remark regarding the presence of an article in the British Pharmacopœia defining a drug is significant, in view of the fact that his Department has the deciding of the quality of reserve-samples under the Sale of Food and Drugs Acts, so that the B.P. would be taken as the standard according to his showing.

Who Discovered Photography?

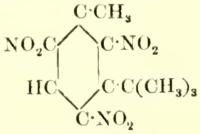
We thought the history of the scientific researches which one after another have created photography as it is known to-day was pretty familiar, but we find the above question heading a paragraph in *Notes and Queries* recently. That interesting little paper was many years ago the principal organ of photography, but yielded the subject, when it became too voluminous, to special journals which adopted it. In its Jubilee number, a few weeks ago, the editor, reviewing the work of his journal during the past fifty years, mentioned that, "from a note made by Mr. John Macray in the number for the 8th of December, 1860, it would appear that Lord Brougham was the discoverer of photography." This startling statement is now quoted by Colonel Malet, who says he remembers reading in Miss Meteyard's book on china that Tom Brierley, Wedgwood's partner at the end of the last century, was credited with the discovery, which happened during his attempts to get a silver lustre on earthenware. This may have been the starting-point of Wedgwood's experiments. A paper by him, published in the *Journal of the Royal Institution* of June, 1802, on "a method of copying paintings on glass and of making profiles by the agency of light on nitrate of silver," is generally regarded as the starting-point of photography.

The alchemists of the sixteenth century had noticed the change that takes place on exposing silver chloride to light, and Scheele, in 1777, investigated the properties of the compound formed. Ritter, of Jena, in 1801, in repeating Scheele's experiments, found that the chloride darkened more rapidly in the parts of the spectrum beyond the violet. It is also on record that a professor of physics at Paris, named Charles, in 1780 demonstrated the chemical action of light by taking silhouettes of his pupils' heads on sheets of white paper painted with a solution of silver nitrate; but of this claim there seems to be no authentic proof. Wedgwood produced pictures on paper and white leather similarly prepared, and in the paper by him read in 1802 before the Royal Institution it is stated that muriate of silver is more readily acted upon by light than the nitrate. Sir Humphry Davy, commenting on this paper, remarked that "nothing but a method of preventing the unshaded parts of the delineations from being discoloured by exposure to the day is wanting to render this process as useful as it is elegant." Dr. Wollaston in 1803 discovered that gum guaiacum, when exposed to blue light, became changed in colour, and that the altered portions were restored by exposure to red light. In 1814 Niépce discovered the sensitiveness of bitumen to light. Daguerre in 1824, when working with Niépce's bitumen-process on silvered plates, accidentally discovered the action of iodine on such plates. In 1799 hyposulphite of soda had been prepared by Chaussier, but its use in photography was postponed until Sir J. Herschell explained it in 1840. The next year Fox-Talbot patented his process for the adoption of iodide of silver for the sensitive surface. By Fox-Talbot's process the invisible iodide-of-silver image was developed with gallic acid. Lord Brougham's claim, put forward years after in his "Tracts, Mathematical and Physical," was that in the original draft of a paper of his published in the "Philosophical Transactions" in 1796, he had described the effect of the exposure of an ivory plate stained with nitrate of silver to the rays of the spectrum, but that he had deleted this part of his note on the advice of Sir C. Blagden, who thought it pertained rather to the domain of art than that of science.

The question, of course, is only of importance in an historical sense, as photography as at present practised has little in common with the earlier discoveries save the fact of the sensitiveness of certain silver salts to light.

Artificial Musk.

Several rather important papers on the chemistry of the substances having a musk odour have recently been published, and, in order to present the facts clearly, we go back a little in the subject. The "artificial musk" most commonly known is that sold as "musc-Baur." All the synthetics with musk odour possess one thing in common—they are nitro derivatives. In the early communications of Baur (*e.g.*, *Comptes Rendus*, cxi., 238) he stated that when meta-isobutyl toluene is heated on the water-bath for twenty-four hours with a mixture of nitric and sulphuric acids, and the process repeated, the hydrocarbon is converted into trinitro-butyl toluene, $C_4H_9 \cdot C_6H(NO_2)_3 \cdot CH_3$, which crystallises from alcohol in needles melting at 96° C., and has an intense musk-like odour. Baur stated that this body was an isobutyl derivative, but later (*Berichte*, xxiv., 2,832) altered his opinion, stating that an intra-molecular change had taken place, and the body was trinitro-tertiary-butylxylene, in which the substituent groups have the following positions:—



"Artificial Musk."

This, presumably, is the body which forms the odorous portion of the white powder sold as artificial musk. Quite recently Baur has shown (*Berichte*, xxxi., 1,344) that an acetyl group may be introduced into the hydrocarbon molecule, and the resulting ketone on nitration gives what may be termed ketone musk. Thus, if 1 part of butyl toluene dissolved in 10 parts of carbon disulphide is condensed with 6 parts of acetyl chloride, in the presence of aluminium chloride, the resulting acetyl derivative, $C_6H_3(CH_3)(C_4H_9)(COCH_3)$, is found to be an oil of pleasant odour, boiling at 255°–258° C., and on nitration this ketone yields a dinitro derivative, $C_6H(NO_2)_2(CH_3)(C_4H_9)(CO{\cdot}CH_3)$, which forms needles melting at 131° C., and possessed of a strong musk odour. This compound differs from the original "hydrocarbon musk" in having one of the nitro groups replaced by the acetyl group. Analogous bodies are produced from butylxylene, or higher homologues may be also obtained by using butyryl or valeryl chloride in the place of acetyl chloride. The resulting dinitro derivatives all have intense musk-like odours.

The latest communication on the subject is Baur's paper on "Aldehyde Musk" (*Berichte*, xxxii., 3647). Butylxylylglyoxlic acid can be converted into the corresponding aldehyde $[C_6H_2(C_4H_9)(CH_3)_2CHO]$ either by heating it with sulphuric acid, or alone to 280° C. The aldehyde forms an oxime by treatment with hydroxylamine hydrochloride and alkali, which melts at 97°–98° C., and may be used as a criterion of its purity. If nitrated with 95 per cent. nitric acid, it yields a mono-nitro derivative $(C_{13}H_{17}NO_3)$ forming yellow odourless scales melting at 66° C. By using pure nitric acid (100 per cent.) a di-nitro derivative is obtained. This body $[C_6(NO_2)_2(CH_3)_2(C_4H_9)(CHO)]$ forms pale yellow crystals melting at 112°, and possessing a powerful musk-like odour. To this body the name "aldehyde musk" may be given. On treatment with hydroxylamine hydrochloride in the usual manner, two isomeric oximes $(C_{13}H_{17}N_3O_5)$ are formed, which melt at 139° C. and 171° C. They are odourless. Aldehyde musk yields a diacetyl derivative when treated with acetic anhydride and a trace of sulphuric acid. This compound, $C_{17}H_{26}N_2O_6$, melts at 147°, and is also formed by acetylating the aldehyde and nitrating the resulting diacetyl-aldehyde.

It is quite clear that in all these bodies, including the older so-called artificial musks, the nitro group is the radicle which determines the odour. This is all the more remarkable, firstly, because but few nitrogenous bodies have been found amongst odorous plant-constituents, and, secondly, because natural musk, from whatever animal obtained, certainly does not contain a nitro compound. The extraordinary potentiality of the $\cdot NO_2\cdot$ group is brought into strong evidence by these compounds. The explosive nature of many compounds containing it is well known. As a colour-producer it is also well in evidence, and in the instances before us its odour-value is accentuated. In picric acid we have the colour and explosive factors developed; in dinitrobenzene the odour and colour; in hydrocarbon musk the odour only appears; whilst in aldehyde musk the yellow colour appears along with odour. A remarkable point, also, is the fact that, whilst it is necessary to nitrate the hydrocarbon (butylxylene) until three nitro groups have been introduced before the odour appears, the dinitro body being odourless, the dinitro ketone and aldehyde both possess powerful musk-odours—or, in other words, the introduction of the $\cdot CO\cdot$ group into the dinitro hydrocarbon at once develops the musk-odour. Such facts as these, when it is possible for a proper appreciation to be placed upon them, will doubtless have an important bearing on the relations of constitution to properties. At present they are merely interesting suggestions for the speculative scientist.

Prescribing by Advertisement.

Our reports of inquests show that chemists and druggists are frequently summoned before coroners and ignominiously reprimanded for so-called prescribing. We have reported several instances of this lately, and it is peculiar that in all it has been declared that the medicines supplied were not the cause of death, had not complicated matters, and in some instances were exactly what the doctors would have supplied. In spite of such exculpation, some of the chemists have been told by coroners that their conduct in prescribing the medicine was of the most reprehensible character, that it was illegal procedure, and so forth. While we do not defend the practice of general prescribing by chemists, we protest against this coroneering as an injustice to a hard-working and well-deserving section of the community. The stigma of reproach cast thus upon members of an honourable calling is not lessened when it is considered that both medical men and coroners might well turn their attention to a class of "prescribers" from whom the public are in urgent need of protection. We refer to those who fatten upon the weakness and folly of poor human nature by means of announcements in the public press, and who, apparently, exercise their calling unrestrained by any fear of legal consequences. It is true that, occasionally, offenders who prey upon the fears of weak woman are brought to book and punished by the law, but these cases are few and far between, and action is not usually taken until the offence has amounted to a public scandal. If these cases of newspaper-"prescribing" cannot adequately be dealt with by existing laws, then the sooner the statutes are amended the better for the health of the community generally.

A glance through the advertisement-columns of a few daily and weekly newspapers will afford ample evidence that our contention is well founded. One advertisement states that a certain preparation is the only known remedy for such complaints as rupture, varicocele, and cancer, and that it has performed some remarkable cures, as evidenced by testimonials of undeniable authenticity. Another preparation, apparently a powder, possesses such heterogeneous virtues that it cures diseases so dissimilar as deafness, weak sight, and fits; while perhaps the most heartless of any is an alleged cure for heart-disease. This last nostrum, unlike the majority of its kind, is stated to be procurable from chemists, and it is gratifying to think that its scope for harm is considerably restricted by the fact that no self-respecting chemist would attempt to procure it. Nor are these "remedies" confined to those intended for the alleviation of internal complaints, for one advertiser has the effrontery to publicly announce that his nostrum will so strengthen weak sight that the use of spectacles will be obviated. Another pernicious type of advertisement, and one capable of working much harm, is that which, in somewhat veiled and guarded language, professes to cure physical symptoms arising from nervous and other causes. Unfortunately, while these people keep within the bounds of the Indecent Advertisements Act they are difficult to reach, but it is a matter for regret that the Act is not more rigidly enforced. It may be pleaded in extenuation that comparatively few people notice these advertisements and, therefore, that their sphere of influence must be circumscribed. We think, however, it is only fair to presume that the multiplicity and frequency of such advertisements is evidence that the advertisers find them profitable and, therefore, that the "cures" must be purchased by a large section of the public. It may be true that, to a great extent they impose only upon the ignorant and credulous, but that is no palliation of the act. Another unpleasant and suggestive feature of this practice is the fact that the business is conducted directly between the advertiser and his client; hence it follows that the full extent of any mischief done cannot be adequately gauged. Although chemists themselves may not be entirely above reproach, inasmuch as they are sometimes inclined to throw the onus of proving its character upon the purchaser of a so-called "patent" medicine, we do not think that any chemist would supply an article which he knew to be of a harmful or fraudulent character. In this respect the chemist, despite coroners and High Court decisions, is ready to take upon himself the responsibility of "selecting the medicine," and were these goods procurable only through the legitimate pharmacist their career would be a short and inglorious one. The blind faith of the public in regard to these quack medicines cannot, perhaps, be better instanced than in a pathetic advertisement which appeared recently in a weekly newspaper, where a poor working-man, who stated that he had suffered for years from a certain disease, and implored any kindly-disposed person to inform him of a genuine cure.

When medical men have complained of the heinous conduct of the chemist who prescribes, the latter has replied, "*Tu quoque*," and offered to cease prescribing when the doctor ceases dispensing, and the present *impasse* appears likely to prevail indefinitely. The newspaper-"prescribing" referred to is a matter affecting doctor and chemist alike. Here both may find a common ground for action, and there is little doubt that, if they joined forces to crush the evil, they would achieve their purpose, and would confer great benefit upon the public for whose safety and well-being both have so long and nobly striven.

THIS IS NOT FABLE, BUT STRANGE FACT.

Robert Smyth, of Smock Alley, Dublin, was adjudicated a bankrupt in 1797. Mr. J. A. Maconchy, one of the official assignees of the Irish Bankruptcy Court, has been investigating the affair and has found that Mr. Smyth's assignee over a hundred years ago commenced an action to recover for the benefit of the creditors the value of certain property which the bankrupt claimed as his. The claim was resisted, but a sum of 500*l*. was paid into court by the defendants. Then the assignee died, and the suit never proceeded. By this time the 500*l*. with compound interest is worth 3,335*l*. 5*s*. 10*d*., and a sum of 1,620*l*. has also been recovered as rent of the property claimed. Mr. Maconchy, as the assignee of the estate, is about to declare a dividend which he estimates at 16*s*. in the pound. Can any Dublin chemist discover a debt due from Robert Smyth on his old books.

A CULICICIDE WANTED.

Major Ronald Ross mentions in a letter to the *British Medical Journal* the need there is for an ideal culicicide in battling with anopheles. The original suggestion to use paraffin is troublesome and costly when adopted on a large scale. The use of tar is suggested because it has been noticed that the larvæ are seldom found in tarred vessels, and lime is mentioned as it has been noticed that malaria disappeared from Châtillon-sur-Loing as the result of an extensive application of lime to the soil for agricultural purposes, the soil being rendered in this way unsuitable as a breeding-place for the anopheles. The ideal culicicide should be one which dissolves so slowly as to render a depression in the ground uninhabitable for larvæ for a long time. Major Ross takes the opportunity of mentioning that he has never expressed the opinion that it is possible to exterminate anopheles throughout the world in a few months, his suggestion being that it may be possible to diminish or suppress them in some localities where the conditions are favourable.

SUBNORMAL TEMPERATURE.

Dr. E. B. Hulbert, Windsor, gives in the *Lancet* particulars of a case of the somewhat rare condition of hypothermia which terminated fatally. The case occurred in 1888. During 88 days, on only 18 days was the temperature found above 98·4° F. The patient was a chemist's assistant, aged 36, who had been dismissed from his situation in consequence of his marked drowsiness, which at times led to his falling asleep over his meals and when at work, and because he was not always responsible for his actions. The diagnosis at the hospital was that of some diffuse degenerative change in the brain, possibly sclerotic in character, and beginning chiefly in the pons and medulla. A *post-mortem* examination failed to show any gross lesion in any part of the body. The temperature records of the case are of much interest, and show that on one occasion a rectal temperature of 81·6° was recorded, a surface instrument simultaneously placed on the chest for two hours registering 75·5°. The literature of the subject of sub-normal temperature is scanty, but temperatures of 93° have been regarded as marking a fatal termination.

SALE OF POTENT DRUGS.

Dr. R. Percy Smith writes to the *British Medical Journal* in regard to the case of the wife of a medical man who took on successive occasions six 25-gr. sulphonal powders—happily without serious effect, because her husband gave her apomorphine hypodermically as well as a purgative. The lady was afterwards certified to be insane. The object of Dr. Smith's note appears to be deprecation of the facility with which such drugs as sulphonal are obtained from chemists. He says, "It is worthy of note that in this case the drug was not obtained in the form of a proprietary article, but in the form of a standard B.P. preparation without a prescription." We do not see the basis of Dr. Smith's thinly-veiled charge against chemists. The case itself is exceptional, but is precisely what might be expected of an insane woman. The purchaser of the drug was a doctor's wife, and chemists who ever have had dealings with doctors' wives know that they bring all sorts of verbal prescriptions from their husbands to the family chemists, frequently making it exceedingly awkward for the chemists. Their husbands are to blame for that. Apart from these incidental features of the case, we would point out that chemists have an exceedingly difficult duty to perform in respect to such drugs as sulphonal, which are not scheduled poisons. The fact that there is no legal restriction upon their sale is *primâ-facie* indication that the public have the right to get these drugs when they ask for them, and when chemists attempt to restrict the consumption of such drugs by any means in their power they are accused of fostering a monopoly or something of that sort, while so far as pharmaceutical authorities are concerned their attempts to restrict the use of potent remedies by scheduling them as poisons have generally been defeated by interested individuals and a stiff-necked Goverument Department.

SHAVING UNDER DIFFICULTIES.

The operation of shaving is reverting to the position it held as a surgical operation in mediæval times. We referred some time ago to the regulations imposed on barbers in France, and now from Baltimore we read the following details of the process of shaving as carried out in an aseptic barber's shop opened there recently:—

1. Chair put in position and gown properly adjusted. 2. Razor is stropped and then sterilised before using; cup, shaving-brush, hair-brush, and combs are sterilised each time after being used. 3. Hands are washed with Castile soap (all soap is removed by rinsing with plain water), then the hands are immersed in an antiseptic fluid, and wiped on a sterilised towel. 4. Sterilised towels are taken from sterilised bag, and towel adjusted around customer's neck. 5. Sterilised cup and brush are used in making the lather, and then the barber proceeds to shave. 6. The face is washed with a sterilised towel taken from sterilised bag. 7. Powder is applied to the face by dipping the end of a sterilised towel in powder-box, and then rubbing on the face, and removing with end of sterilised towel; the towel is not to be redipped in powder after being once used. 8. Proceed to dress hair with sterilised hair-brush and comb. 9. The barber's sleeve must be tight-fitting and about 3 inches above the wrist.

Glyn-Jones as a Legal Expert.

On Thursday evening, January 18, Mr. W. S. Glyn-Jones, Secretary of the Chemists' Defence Association, gave the members of the Chemists' Assistants' Association a lecture on some of the laws which affect pharmacy and the drug-trade. The lecture was followed by a brief discussion, in which Messrs. Gamble (President), MacEwan, Strother, and Morley Taylor took part. We wish to give as much as we can of the lecture, so omit the discussion, which raised no new point of law. Nor did Mr. Glyn-Jones venture upon any fresh interpretation of the various Acts which he dealt with, but his summary was good, and is well worth reading.

Mr. Glyn-Jones.

THE consideration which I have been able to devote to this paper has been sufficient to strengthen my opinion that if ever a curriculum for the Minor examination is enforced it should include a course of lectures upon the various legal enactments which the chemist is required to fulfil. There are, I think, few chemists' shops in which offences, more or less technical, are not being unwittingly committed almost daily.

The Apothecaries Act, 1815,

is full of interest. The preamble, which commences as follows, is an indication of this:—

> Whereas his Majesty King James the First, by letters patent, under the Great Seal of Great Britain, bearing date the sixth day of December, in the fifteenth year of his reign, did for himself, his heirs, and successors, grant unto William Besse and divers other persons therein named, and to all and singular other persons whomsoever, brought up and skilful in the art, mystery, or faculty of apothecaries, and exercising the same art, mystery, or faculty, then being Freemen of the Mystery of Grocers of the City of London, or being Freemen of any other Art Mystery, or Faculty in the said City of London (so as they had been brought up and were expert in the art or mystery of apothecaries), that they, and all such men of the said Art or Mystery of Apothecaries and in the said City of London and suburbs of the same, and within seven miles of the said City, might and should be one body corporate and politic, in substance, deed and name.

The charter referred to gave the Apothecaries' Society the right to go into apothecaries' shops, &c., to prove the medicines and destroy those which were bad; but the 1815 Act repealed those powers, and in lieu of them gave the Society the right to enter into any shop or shops of persons practising as apothecaries in any part of England or Wales, and to burn or otherwise destroy the deceitful drugs, &c., though they are not enjoined, as King James enacted, to make the bonfire in front of the offender's doors. This power, contained in Section 3 of the Act, is still in force, though I have never heard of its having been exercised.* Section 5 of the Act is also of interest:—

> And whereas it is the duty of every person using or exercising the art and mystery of an apothecary, to prepare with exactness and to dispense such medicines as may be directed for the sick by any physician lawfully licensed to practise physic . . . if an apothecary shall knowingly, wilfully, and contumaciously, refuse to make, mix, compound, prepare, give, supply, or administer, or in any way to sell, set on sale, or put to sale to any person or persons whatever, any medicines, compound medicines, or medicinal compositions, or shall deliberately or negligently, falsely, unfaithfully, fraudulently, or unduly make, mix, compound, prepare, give, apply, or administer, or in any way sell, set on sale, put forth, or put to sale to any person or persons whatever, any medicines, compound medicines, or medicinal compositions as directed by any prescription, order, or receipt, signed with the initials in his own handwriting of any physician so lawfully licensed to practise physic . . . he shall be liable to a fine of 5*l.* for the first offence, 10*l.* for the second, and for the third forfeit his certificate.

I have yet to learn that the Society is in the habit of enforcing this section, and I know a number of L.S.A.'s who would certainly refuse, perhaps contumaciously, to dispense a Harley Street prescription. I doubt whether many of them would be in a position to faithfully mix, compound, and prepare some of the prescriptions which many of us have to deal with almost daily. Section 14 makes it illegal for persons who do not hold a certificate from the Apothecaries' Society to practise as an apothecary. Mr. Justice Cresswell held that an apothecary is a person who professes to judge internal disease by its symptoms, and to cure that disease by medicine. Clearly such practice is not to-day confined to Licentiates of the Society. I should contend that such a definition would equally apply to the medical practitioner, whether holding the L.S.A. certificate or not. It is clear from the Medical Act of 1858 that any medical practitioner is entitled to demand reasonable charges for professional aid, advice, cost of medicine, and surgical or medical appliances supplied by him to his patients, and this gives him the right not only to diagnose and prescribe, but also to supply the medicine. It will sooner or later be important to get the present-day legal definition of an apothecary. In my opinion the answer is: a Licentiate of the Society of Apothecaries. A decision on this matter will have an important bearing upon the question of dispensing in doctors' surgeries. If it is held that every general practitioner is an apothecary, then, under Section 17 of the Act, no person can act as an assistant to a medical man (excepting persons who have actually served an apprenticeship of five years to an apothecary) in compounding or dispensing medicines, without undergoing an examination as provided by the Apothecaries Act. Any chemist holding either the Minor or Major qualification who acts as a dispenser to an L.S.A. is as much breaking the law as the doctor's coachman would be if he so acted. This is the only Act of Parliament which in any way restricts the practice of medicine. It is under this Act that chemists are liable to be prosecuted for prescribing. Judges in the High Courts have held that a chemist who systematically sets himself to diagnose by questioning his customers as to their symptoms, and uses his judgment in supplying them with medicines for the treatment of such symptoms, is contravening this Act. At the same time, it was pointed out by the Courts that if a chemist supplied something to a customer in answer to a request for something for a headache, though there might be a technical offence, no one would think of instituting proceedings. It is difficult to draw a line as to what a chemist can legally do in the direction of prescribing, and I, for one, would welcome a House of Lords decision on the matter. I am confident that if the Act were strained so as to prohibit the supplying by chemists across the counter of remedies for simple ailments, its repeal would be certain.

The Dentists Act of 1878

prohibits the use of the title dentist, or of any name, title, addition, or description implying that the user is registered under the Act, or is specially qualified to practise dentistry. It does not prohibit the practice of dentistry by unqualified individuals, though the law will not assist such persons to recover any fee or charge in connection with such work. The dentists have attempted to interfere with the use by chemists of such a phrase as "Teeth skilfully extracted." Their contention apparently is that it is not an offence for an unqualified person to say he extracts teeth, but that he must not say he does it skilfully, on the ground that such language implies special qualification. The Chemist and Druggist some two or three years ago took up this question, and organised a fund to contest the next suitable case. The dental authorities have not since provided such a suitable case.

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* Mr. Morley Taylor, in the discussion, called attention to the peculiar fact that the Pharmaceutical Society has power to prosecute under the Pharmacy Act, Section 15, in regard to compounding of pharmacopœial preparations by other than B.P. formulæ, and, like the Apothecaries' Society, does not enforce it.

THE SALE OF FOOD AND DRUGS ACTS.

I confine my observations to the more important features of these Acts, especially the Act which came into force on January 1. In reading up this subject I have found a pamphlet, issued by the Federation of Grocers' Associations, published at 6*d.*, of the utmost value. It has been written by Mr. Frederick W. Beck, solicitor to the Federation and to the Chemists' Defence Association. I have no hesitation in saying that every chemist in business should procure a copy of this pamphlet. The 1st Section of the 1899 Act bears evidence of class legislation. It makes it illegal to import any adulterated or impoverished article of food unless under certain conditions. The section shows a greater desire on the part of the authorities to protect agricultural interests than the interests of the general consumer, otherwise druggists would have not been specially excluded from this arrangement. The drug-trade has as much right to expect the Government to deal with adulteration or impoverished drugs at the port of entry as have the grocers and agriculturalists in regard to articles of food. If such were the law, and if it were enforced, nothing would do more to prevent adulteration in the drug-trade.

Section 2 is of the greatest importance. In effect it gives the Local Government Board control over the local authorities in the matter of enforcing the Food and Drugs Acts. So that where hitherto it has been a dead letter, the Acts will henceforth be rigorously enforced. Section 4 gives the Board of Agriculture power to determine the standard for milk, cream, butter, or cheese. This suggests the need for an authoritative standard, not only for the articles mentioned, but for all foods and drugs.

In reference to drugs it is sometimes argued that the B.P. is the standard under the Food and Drugs Acts. There is not a sentence in any of the Food and Drugs Acts which warrants the assertion, and no magistrate could rightly convict a defendant on the ground that the analyst's certificate says the article in question is not of B.P. strength. He must have oral evidence to prove to him that the B.P. is the commercial standard for that particular article. At Plymouth Dr. Attfield, surely the authority as to what the Pharmacopœia is or is not, stated that it was not the legal standard, that it was not prepared with that object in view, and, in answer to certain criticisms on the Pharmacopœia where it was pointed out that articles made according to the Pharmacopœia would not answer the tests given in the Pharmacopœia for that article, the reply was that the money at the disposal of the compilers was not sufficient to enable all the processes and tests to be adequately checked and verified. Surely it is the duty of the Government to provide an efficient standard for food and drugs under the Act, and I think that the proper authorities to produce that standard for drugs would be a combined Committee of the Medical and Pharmaceutical Councils, and I quite agree with the suggestions thrown out by Mr. Tyrer at Plymouth that the Society's research-laboratories should be used for the purpose of investigating those processes and tests, and that the Government should properly subsidise the work.

Section 14 confers fresh powers upon the authorities; here again, unfortunately for chemists, the powers are confined to articles of food. The 1879 Act gave inspectors the power to take samples of milk in course of delivery, and to proceed where the milk was adulterated. Under this section samples of milk have been taken at railway-stations on its way from the farmer to the retailer, and great protection accorded to the retail-dairymen in consequence. The new Act gives the authorities similar powers in relation to all articles of food. I quote from Mr. Beck's pamphlet the following extract from his notes on this section:—

> The retail customer, suspecting that a shopkeeper is dealing dishonestly and supplying adulterated articles, may order goods to be delivered and may arrange with the local inspector to meet the goods on delivery, and take samples of them with a view to prosecution. Remembering this new power, the vendor should be careful that ordered goods are properly labelled and correctly described in the invoice.
>
> The retailer who has been supplied with a sophisticated article can first assure himself by getting a sample analysed, and, finding his suspicions confirmed, can order a fresh delivery of the same goods, and arrange with the inspector to sample them at the railway-station, or at the moment of delivery, and the inspector will thus be enabled to proceed against the wholesaler or manufacturer —a proceeding which he otherwise could not adopt, as no power exists to take samples in warehouses and factories.
>
> By careful usage this section may be made the means of putting a healthy check upon firms who are known to be adulterators, and who have in the past exposed the retail-trade to prosecutions and to serious injury.
>
> Samples may also be taken by inspectors without the request but with the consent of the purchaser, and if any inspector sees goods being delivered from a van there is nothing to prevent his introducing himself and obtaining the consent of the purchaser to his taking samples of the goods.

It is obvious that a similar protection for retail chemists would have been of the utmost value.

[Mr. Glyn-Jones dealt with other topics, which we discussed on January 6, page 22.]

The question as to what constitutes a warranty is still somewhat an undecided one, but Mr. Beck advises us, as an Association, that each invoice must be accompanied with a written statement that the article invoiced is guaranteed pure, &c. A rubber-stamp impression, provided the statement was signed, would be sufficient. I know of a number of cases in which retail chemists have required wholesale houses to warrant their goods, and letters have been sent by the wholesalers in question stating that they thereby in the letter give a general guarantee, and undertaking that all B.P. articles sold by them as such are warranted to be B.P. It is well that the retail-trade should remember that such a letter does not constitute a legal warranty, except for the particular consignment of goods which it might accompany. Each consignment of goods must be separately and specifically warranted.

The new Act is a striking example of the need that exists for some organisation which would put before the authorities the view of chemists and druggists in regard to such Acts of Parliament by which they are to be so particularly affected. The interests of the grocery-trade were splendidly watched by the Grocers' Federation, and Mr. Long, the Minister in charge of the Bill, received repeated deputations from that body. The Act as now passed bears evidence of the benefits resulting to the grocery-trade from such deliberations between the Government and their representatives.

MERCHANDISE-MARKS ACT.

Under this Act it is illegal to forge any trade-mark, to use any colourable imitation of a trade-mark, to make any die, block, machine, or other instrument for the purpose of forging a trade-mark, or apply any false trade-description to goods. It is also an offence to sell or expose for sale anything with a forged trade-mark or false trade-description, unless the accused can show that having taken all reasonable precautions against committing an offence he had no reason to suspect the genuineness of the mark or trade-description, that he is ready to give all information in his power as to where he obtained the goods, and that he had otherwise acted innocently. Penalties are severe, more so than under the Food and Drugs Act, the offender being liable to imprisonment on the first offence. The authorities have recently used this Act in order to get at the manufacturing and wholesale houses who supply foods or drugs—any goods, in fact—under a false description, and heavy penalties have recently been imposed upon wholesalers of camphorated oil not of B.P. quality.

WEIGHTS AND MEASURES ACTS, 1878, 1889 AND 1897.

The 1878 Act lays down that every contract, bargain, sale, or dealing shall be deemed to be made or had according to one of the Imperial weights and measures ascertained by the Act, or to some multiple or part thereof, and if not so made or had shall be void. It also prohibits the use of local or customary measures. The use of the avoirdupois weight is enforced for all articles except gold, silver, platinum, diamonds, precious metals, or stones, which may be sold by troy weight, and drugs, which when sold by retail may be sold by apothecaries' weight. By the 24th Section it is illegal not only to use, but to have in possession for use in trade, a weight or measure which is not of the denomination of some Board of Trade standard. It is also an offence to wilfully use, knowingly make, or cause to be made or sold any false or unjust weight, measure, scale, balance, steelyard, or weighing-machine. Every weight, unless it is too small, must have the denomination on the top or side in legible figures or letters, and measures must be similarly stamped on the outside. In addition to being correct, every measure or weight whatsoever used for trade must be verified and stamped by an inspector with a stamp of verification. Lead or pewter weights must be substantially cased with brass, copper, or iron before being stamped. It is the duty of the local authorities to appoint a sufficient number of inspectors for the enforcing of the Act in their districts. Section 45 states that if a weight or measure is stamped by an inspector it may be legally used throughout the United Kingdom, unless found to be false or unjust, and it does not need restamping by the local authority of the district where it is for the time being in use. The inspectors have authority in writing from a magistrate at all reasonable times to inspect weights, measures, scales, &c., used within their jurisdiction. The same power is given to every justice of the peace, and any person who neglects to produce such weights, measures, and scales, &c., is liable to be fined. Under the 1889 Act, if a person is convicted of a second or subsequent offence, and if the Court is of opinion that the offence was committed with intent to defraud, he may be sent to prison. The Court can also, if it thinks fit, order the publication of any conviction. Equivalents of metric and Imperial weights and measures have been issued from the Standards Office of the Board of Trade; but the 1897 Act legalises the use of metric weights and measures, and these should be verified and stamped by the inspector.

PETROLEUM ACTS, 1871 AND 1879.

Mr. Glyn-Jones gave the definition of petroleum (see THE CHEMISTS' AND DRUGGISTS' DIARY, 1900, page 219). Section 7 of the 1871 Act prohibits petroleum being kept except by persons licensed by the local authority. Petroleum kept in contravention of the section shall, together with the vessel containing it, be forfeited, and the owner of the place shall be liable to a penalty not exceeding 20*l.* per day during which he keeps the petroleum; but the section does not apply to petroleum kept for private use or sold if it is kept in special glass, earthenware or metal vessels, each of which does not contain more than a pint, and is securely stopped, and if the aggregate amount kept does not exceed 3 gals. The local authorities have power to endorse the licence with conditions as to the mode of storage, &c. The test for petroleum was altered in the 1879 Act, reducing the flash-point to 73°—the deadly "low-flash." The Pharmaceutical Society last year induced the London County Council to issue instructions in reference to persons keeping petroleum spirits, who will not be required to obtain a licence provided

> That the total quantity kept does not exceed 3 gallons (*i.e.*, of everything coming under the designation "Petroleum").
>
> That the spirit is kept in securely-stopped vessels, each of which contains not more than 1 pint.
>
> That not more than one of such vessels is opened upon the premises at one time, whether for use or for re-bottling for sale.

In the absence of such instructions chemists cannot legally keep benzine, &c., in open bottles in their premises for serving small quantities. By Orders in Council issued in 1897, carbide of calcium comes under the definition of petroleum, thus necessitating a licence before it can be stored or sold. Five pounds, however, may be kept in 1-lb. sealed packets without a licence. Such packets, if sold or exposed for sale, must bear a label with the words, "Carbide of calcium. Dangerous if not kept dry," with the addition of the following notice:—"The contents of this package are liable, if brought into contact with moisture, to give off a highly inflammable gas."

After speaking briefly of the Explosives and Shop-hours Acts, the lecturer referred to two criminal laws which he was convinced chemists and their assistants are in danger of breaking, and he used the occasion to give a solemn warning that many in the trade almost daily run the risk of

STANDING IN A CRIMINAL DOCK.

First, I refer, Mr. Glyn-Jones continued, to Offences Against the Person Act, 1861. I quote from the Act Clauses 58 and 59, which are as follows:—

> Every woman being with child who, with intent to procure her own miscarriage, shall unlawfully administer to herself any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, and whosoever, with intent to procure the miscarriage of any woman, whether she be or be not with child, shall unlawfully administer to her or cause to be taken by her any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, shall be guilty of felony, and being convicted thereof, shall be liable, at the discretion of the Court, to be kept in penal servitude for life, or for any term not less than three years, or to be imprisoned for any term not exceeding two years, with or without hard labour, and with or without solitary confinement.
>
> Whosoever shall unlawfully supply or procure any poison or other noxious thing, or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used or employed with intent to procure the miscarriage of any woman, whether she be or be not with child, shall be guilty of a misdemeanour, and, being convicted thereof, shall be liable, at the discretion of the Court, to be kept in penal servitude for the term of three years, or to be imprisoned for any term not exceeding two years, with or without hard labour.

I say nothing as to the morality of the practices aimed at here, but I urge every chemist and assistant to carefully study the plain English of those sections. I know that many chemists actuated by motives of pity or gain are constantly sailing far too near the wind for men who desire to avoid being convicted felons.

The other is the Act to suppress Indecent Advertisements, 1899. Section 5 of that Act says:—

> 5. Any advertisement relating to syphilis, gonorrhœa, nervous debility, or other complaint or infirmity arising from or relating to sexual intercourse, shall be deemed to be printed or written matter of an indecent nature within the meaning of Section 3 of this Act, if such advertisement is affixed to or inscribed on any house, building, wall, hoarding, gate, fence, pillar, post, board, tree, or other thing whatsoever, so as to be visible to a person being in or passing along any street, public highway, or footpath, or is affixed to or inscribed on any public urinal, or is delivered or attempted to be delivered to any person being in or passing along any street, public highway, or footpath.

This needs little comment from me except to say that there are many chemists within a radius of two miles of this spot who, while priding themselves on their professional standing, are exhibiting articles with labels attached which contravene this Act. They are liable to a penalty of 40*s.* or a month, with or without hard labour.

The Pharmacy Acts were finally dealt with. Under Section 15 it is an offence for any person to compound any medicines of the British Pharmacopœia except according to the formulæ of the said Pharmacopœia. This is practically a dead letter. The only body who can take action is the Pharmaceutical Society, and it has never done so. It would be useful to have a legal decision as to what constitutes such compounding, and I am personally of opinion that the Pharmaceutical Council owes it as a duty to the public, and would enhance its value from the public point of view, if it would enforce this portion of Section 15. There can be no doubt that cheap and nasty medicines are being sold, and that the practice constitutes the worst form of competition which we as chemists have to put up with. Anything that the Society can do in putting down such practices would be of use to the public. I would also point out the important duty devolving upon chemists and their assistants to see that the provisions of Section 17 are effectually carried out. I have reason to believe that there is a great deal of neglect in omitting to label poisons, especially proprietaries containing poisons, with the name and address of the seller.

A HOBOKEN PRESCRIPTION.—At an inquest held at Hoboken, N.J., on December 13, on the body of a Mrs. Julia Morris, a verdict was given that the remote cause of death was due to medicine which had been dispensed by a druggist's assistant in Hoboken. Mrs. Morris, who was 80 years old, became ill on November 8, and was prescribed for by a doctor, who ordered a mixture containing sulphocarbolate of soda. The prescription was dispensed by August Miecke, an assistant in the store of Mr. B. Prandt, and it is alleged that after taking one teaspoonful of the mixture the woman became worse, and died on November 20. Miecke deposed that he took the medicine from a stock-bottle labelled "Sulphocarbolate of Soda," but an analysis of the medicine showed that it contained both basic and acid sulphate of mercury. Miecke stated further that the remainder of the drug was not now in the store, and he did not know what had become of it.

Notes on Resinoids.

By Lewis Ough, F.C.S., F.L.S., Pharmaceutical Chemist.

IX.—Helonin.

HELONIN is derived from the rhizome and rootlets of *Chamælirium luteum*, Gray (*Chamælirium carolinianum*, Willd.; *Veratrium luteum*, Linn.; *Helonias lutea*, Aiton; *Helonias dioica*, Pursh), natural order *Melanthaceæ*, an indigenous North American plant found abundantly in rich woodlands from Western New England to Illinois. It is known by the following domestic names:—Devil's-bit, unicorn-root, false unicorn-root, drooping starwort, colic-root, blazing star, and starwort; but the last two names really belong to *Aletris farinosa*.

The rhizome is thick, abrupt and closely annulated, about 1 inch long and ¼ inch in diameter, somewhat curved, and of a dark-grey brownish colour, with minute, long, wiry rootlets or their scars; it breaks with a horny and nearly smooth fracture, and has a strong bitter taste, but it is nearly free from smell. The leaves are parallel veined, and alternate, those above being small, lanceolate, and sessile, increasing in size toward the root, and the inflorescence is diœcious in long, terminal, spike-like racemes, flowering in May and June. The fruit is an ovoid-oblong three-celled pod, the seeds being numerous and winged. Probably on account of similarity of names this root has frequently been found interchanged and mixed with that of *Aletris farinosa*, but even when dried its appearance is too characteristic to be readily mistaken for the latter-named rhizome. Its popular name, devil's-bit, is derived from an aboriginal legend to the effect that the evil spirit, angered that this root cured all disorders, bit off a portion and so reduced its usefulness. By the eclectics helonin is considered to be a tonic, diuretic, vermifuge, and emmenagogue. The Indian squaws used preparations of the plant to prevent abortion and chewed the root to relieve coughs. Ives recommends it for checking nausea and vomiting, whilst Bramen employed it for the cure of leucorrhœa. According to Tilden, this rhizome contains an oleo-resin, gum, starch, extractive matter, and a bitter principle from which Green (1878) isolated a glucoside, chamælirin, which, like many principles from the lily tribe, is saponaceous in its watery and alcoholic solutions. This body is described as a yellowish-white powder, amorphous, neutral, and bitter, readily yielding, by means of dilute acids, glucose and an insoluble uninvestigated resinous substance, chamæliretin, which is readily soluble in alcohol and ether, and coloured brown by sulphuric acid. Coe's description of this resinoid is very peculiar. He says: "It is wholly composed of a neutral principle, and therefore mostly soluble in water, and consequently readily dissolved in the stomach"; and the "National Dispensatory" mentions that it is the hydro-alcoholic extract of the rhizome. Helonin, prepared from the coarsely-powdered rhizome by a process similar to that already described for the manufacture of aletrin,* was found to be of a golden-brown colour, which could with care be reduced to a fine powder. Taking the average of several batches, the yield has been nearly 13 per cent.

The work connected with this note was conducted in the laboratories of Messrs. John Richardson & Co., Leicester (Limited).

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* The Chemist and Druggist, September 30, 1899.

Camwal's Chairman.

ONE of the last acts done by the staff of the Chemists' Aërated and Mineral Waters Association (Limited) before the reconversion of the company was to recognise the friendly relations existing between them and their Chairman (Mr. Horace Davenport), and the completion of the majority of the company. The facts in regard to that happy event are already on record, but it is fitting, now that the reconstructed and larger Camwal has been successfully floated, to say that the success of the initial venture is due chiefly to Mr. Davenport's pluck and tenacity. Year after year he had to give the shareholders of the Chemists' Aërated and Mineral Waters Association a lecture on co-operation, and he had to provide most of the money for the enterprise until it began to pay dividends, which was not till some three or four years after it was founded. So far as we remember, it has been the only co-operative-trading scheme among chemists which has succeeded in this country, and this one owes its success to the fact that its promoter nursed it, financed it, and conducted it all through its career with at least as much devotion as if it had been his own concern entirely, and the one on which he was dependent for a livelihood. But Mr. Davenport had other interests to look after, for during the greater part of the twenty-one years his father (Mr. J. T. Davenport) had retired from the management of the Collis Browne's chlorodyne business, which has been another peculiar care of Mr. Horace Davenport's. Mr. Davenport is a School of Pharmacy man (1871), with honours in botany, materia medica, and chemistry. He is a pharmaceutical chemist; an all-round athlete; was champion amateur swimmer of England for several years; and is now learned in cleeks, niblicks, and other articles required in negotiating the tiny guttapercha sphere over bunkers and the like. He is not unacquainted either with the roaring game, but he has little chance in this country of becoming enthusiastic over the curling-stone.

Mr. Horace Davenport.

Sunflower-growing in Southern Russia.—According to a French consular report, there is in Southern Russia a growing demand for oil-bearing seed, particularly sunflower-seed. Until recently there had been in that region but few establishments for extracting this oil, and the producers, finding no market at home, sent the seeds to foreign countries. Now, however, there are mills in the south which are prepared to use considerable quantities of these products, and they offer to the cultivators better prices than they could secure in foreign markets.

Pharmaceutical Volunteers.

By John Gibson, M.P.S.,
Lieutenant 1st V.B. Northumberland Fusiliers.

It is now forty years since the Volunteer Service was organised, and recent events have shown how necessary it is to maintain a large army of "citizen-soldiers" in the British Isles. The object of this paper is not to treat of the Volunteer Service from the strict military point of view, but from the way in which it affects the vast commercial interests of our Empire, the prosperity of which, as well as the output of British industry, is to a large extent dependent upon keeping and maintaining our colonies as open markets for our goods. The increase of the British Empire in almost every quarter of the globe during the last half-century has been much greater than the corresponding increase of our Navy and Army, and, had it not been for our Volunteers, we should have had to fall back on conscription in order to protect not only our shores, but our much-prized colonies and possessions.

The Volunteers were never intended to replace our Army, nor has it ever been the policy of any Government to look upon the Volunteers as anything more than a most useful and efficient reserve, ready to be called upon in case of invasion or national emergency. To be a Volunteer is not simply to wear the Queen's uniform and carry a rifle, but to be all that a good citizen should be—ready to defend our shores when required to do so.

The Volunteer Service has always had the support of large numbers of the commercial community, and it has been carried on and supported by business-men in a generous manner. I believe the drug-trade has been somewhat behind other callings in respect to support of the Volunteer movement, chiefly because the spare time available to retailers is limited.

The Volunteer Service is open to all, from the highest in the land to the poorest of the poor. Football, cricket, tennis, boating, cycling, rowing, and other athletic exercises, all excellent in themselves, are only available to the few, but the Volunteer Service is open to all men willing to serve, who are sound in health, sight, and limb. If ever we expect anything which will improve the manliness and physique of young men it can only be attained by their availing themselves of opportunities of studying tactics and drill, and making themselves proficient in the use of arms. These are not only pleasant and healthy methods of gaining exercise, but recreation for mind and body, and a means of diverting the mind from the ever-recurring monotony and routine of daily occupations.

To the chemist, and to the chemist's apprentice in particular, the Volunteer Service offers healthy recreation which can, in most cases, be indulged in after business hours, and without inconvenience to business engagements. Of course, the responsible nature of a chemist's calling prevents a large number of chemists from becoming Volunteers, but there are not a few who have rendered excellent service in Volunteer work. It would be little short of insult to point out to an educated class, such as chemists, that if they can spare time for Volunteer work and duties, it would be a decided advantage to them personally, because it should be a great inducement for them to take regular exercise and recreation, which would take them for a time far beyond the reach of business worries, which magnify themselves if indulged in after business hours.

Young men who choose pharmacy for their calling would improve their general health and physique if they would, when they reach early manhood, attach themselves to some local Volunteer corps, and divide their "apprentice-evenings" between Volunteer exercise and pharmaceutical study. If this plan were usually adopted, we should have fewer delicate, undeveloped, and unhealthy young men with pale faces and lax muscles in the examination-room and in the pharmacy. There is one thing the pharmaceutical Volunteer is especially fitted for—viz., the Medical Staff of the Volunteer Service. The duties of this branch were detailed in the last volume of The Chemist and Druggist, page 720, and, owing to the responsible nature of these duties, they should only be delegated to Volunteers who have the legal qualification which the chemist possesses At the present time the pharmaceutical Volunteer has no status whatever as a pharmacist in the Volunteer Service, and if he offers his services to the Medical Staff in the field hospital, as there is no compounder's rank for him to hold actually, he is in danger of being looked upon by some persons as simply an officers' servant. Many Volunteer surgeons declare that, unless assisted by skilled chemists, they would be practically helpless if in charge of field hospital during hostilities, as the surgical cases alone would require their constant care and attention. Chemists attached to the Medical Staff, with the rank of compounder, would be the only reliable men they could depend upon in that case. Of course it would not be expedient for chemists who hold commissions to do hospital duty, as they would be required at their respective places in their regiments, but non-commissioned officers and men could be appointed for this work with great advantage, provided they were chemists.

As recent events seem to show, there will be, doubtless before long, still more changes in the Volunteer Service, and I hope that when the opportune time arrives pharmaceutical Volunteers will come forward and see that they have some more universally-recognised and clearly-defined position in the Volunteer Service. Whether or not, I can assure them that under the present conditions service in the Volunteers will afford them some of the brightest and sunniest days of the best years of their life.

By the Editor.

We asked Lieutenant Gibson to introduce this subject because a few months ago he suggested that there are sufficient Volunteers in the drug-trade to form the nucleus of an association for the purpose of securing for Volunteer compounders a proper position and rank as such, and to help Volunteers to identify each other as trade friends when mobilised. In response to our request some connected with the trade have been good enough to send in their names and portraits in their regimental uniforms, and we print two pages of these to-day. Doubtless these groups could be considerably extended, but sufficient is given to show that Volunteering is a pursuit which druggists and pharmacists can take up without impairing in the slightest their professional or trade reputation.

Apart from such considerations, it will be admitted that the War Notes which we have been publishing since October are remarkable evidence of the participation of the drug-trade in military matters. Already some in our ranks have fallen in the fight, others are engaged as combatants or compounders, and some are on the way to bear their own share and the burden of those left at home in the struggle for the maintenance of our Empire. And, surely, the portraits which we now present exhibit the soldierly appearance so appreciated by every nation on earth. We do not propose to say more in respect to these gentlemen than will suffice to show what they have done in Volunteering, and the following are the briefest possible notes:—

Mr. W. Charles Baker, chemist and druggist, Edinburgh, Corporal Q.R.V.B. Royal Scots; nine years' service.

Mr. L. Brown, chemist and druggist, Coningsby, Corporal 1st Lincoln Volunteer Regiment; formerly Sind and Punjaub Volunteers; eighteen years' service.

Mr. F. T. Budd, Cullompton, 3rd V.B. Devon Regiment, February, 1886; Sergeant, 1892–96, retired; again joined as private, 1899.

Mr. Wm. Cumming, chemist and druggist, Thurso, Instructor Bearer Squad 1st Sutherland Highland Rifle Volunteers.

Mr. W. Dennis, pharmaceutical apprentice, Silloth, Gunner 1st Cumberland Volunteer Artillery.

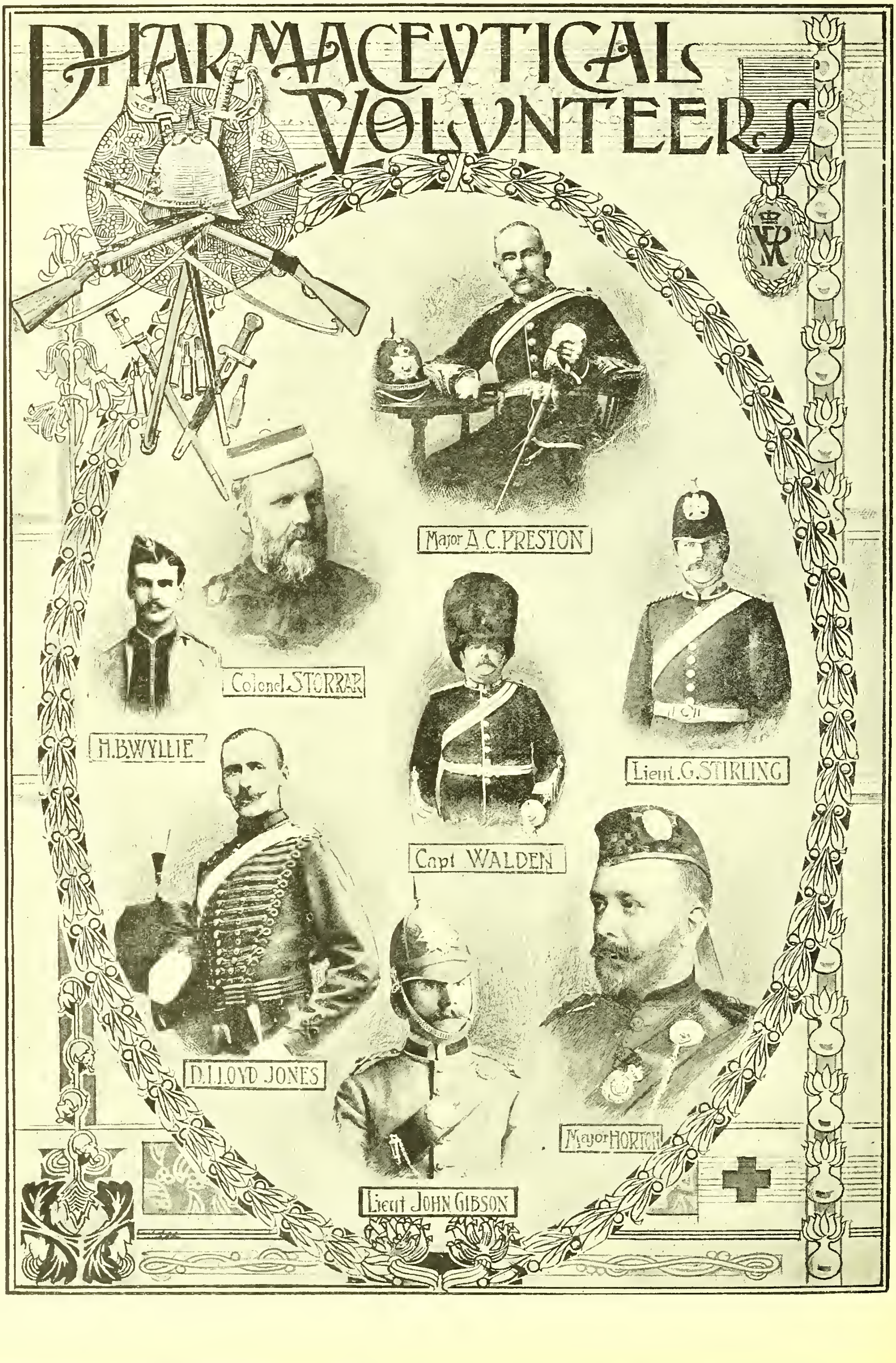
Mr. James Edwards, chemist's assistant, Redruth, Cyclist 1st V.B. Duke of Cornwall's Light Infantry.

Mr. John Gibson, chemist and druggist, Hexham, Lieutenant 1st Volunteer Battalion Northumberland Fusiliers; eleven years' service; certificate of proficiency for captains and subalterns, May 13, 1899.

Mr. Arthur Hill, chemist and druggist, Bedford, Sergeant-Compounder, Home Counties Brigade Bearer Company. (The writer of the article on Volunteer compounders in our last volume.)

Mr. James A. Horton, chemist and druggist, Bucksburn, N.B., Honorary Major 4th Volunteer Battalion Gordon Highlanders; Supply and Transport Officer; twenty-one years' service.

Mr. D. Lloyd Jones, chemist and druggist, Newport, Mon., Trooper Royal Gloucestershire Hussars (Yeomanry), volunteered for activeservice; ex-Sergeant Durban Light Infantry.


PHARMACEUTICAL VOLUNTEERS
VR
Major A. C. PRESTON
Colonel J. STORRAR
H. B. WYLLIE
Capt WALDEN
Lieut. G. STIRLING
D. LLOYD JONES
Major HORTON
Lieut JOHN GIBSON

Sergt A. HILL.

Sergt J. RAINEY.

Sergt J.T. BUDD.

Pte W. DENNIS

Corpl S. BROWN

Pte W.H. MURRAY

Lce. Corpl. E.H. SMITH

Squad Instr W. CUMMING

Pte. JAS EDWARDS

Color Sergt H. WYATT.

Pte A.G. MAXFIELD

Pte R. MARSHALL

Corp. Wm C BAKER

Mr. Robert Marshall, chemist and druggist, Tayport, Private 1st Fife Artillery.

Mr. A. G. Maxfield, chemist's assistant, Sheffield, Sapper 1st V.B. West Yorkshire Royal Engineers.

Mr. W. H. Murray, jun., apprentice with Mr. Rigg, Kendal, in Bearer Section 2nd V.B. Border Regiment.

Mr. A. C. Preston (Hodgkinson, Prestons & King), Major Tower Hamlets Rifle Brigade; volunteered for service in South Africa.

Mr. J. Jarvis Rainey, chemist and druggist, Spilsby, Battalion Hospital-Sergeant 1st V.B. Lincoln Regiment; twenty-nine years' service. Joined as bandboy when 6 years old, and entered the ranks nine years later, and became Hospital-Sergeant in his 19th year (1882).

Mr. E. H. Smith, chemist and druggist, Gosport, Lance-Corporal Cyclist Section 3rd (Duke of Connaught's Own) V.B. Hants Regiment.

Mr. George Stirling, chemist and druggist, Dunoon, N.B., Volunteer since 1881; 5th V.B. Argyll and Sutherland Highlanders 1881–87 (Sergeant); 1891–93 (Sergeant); Ambulance certificate, May 9, 1885; certificate of proficiency for captains and subalterns, October 9, 1891; Lieutenant 1st Argyll and Bute Artillery, 1893; retired.

Mr. David Storrar, chemist and druggist, Kirkcaldy, member of the Pharmaceutical Council, Lieut.-Colonel 1st Fifeshire Artillery; over thirty years' service; retired.

Mr. R. W. Walden, chemist and druggist, Eaton Square, W., Captain 1st V.B. Royal Fusiliers; late Brigade Cycling Officer, Surrey V.I. Brigade; certificate of proficiency for captains and subalterns.

Mr. Harold Wyatt, jun., pharmaceutical chemist, Bootle, a well-known writer on pharmacy; Colour-Sergeant 1st V.B. "The King's" Liverpool Regiment; in twentieth year of service.

Mr. H. B. Wyllie, chemist and druggist, Edinburgh, formerly Corporal Bombay Volunteer Artillery (portrait is of mess uniform).

The next step in procedure, so far as present pharmaceutical Volunteers (or "military pharmacists," as Mr. Harold Wyatt, jun., nicely phrases it) are concerned, is to write to Lieut. John Gibson expressing their views in regard to the formation of a bond of union amongst themselves to see that chemists only be selected as compounders, and that they rank as such when selected for hospital-duty. There are two sides to that question, of course, and we cannot do better than quote from a letter by Captain Walden, who holds the opposite view to Lieut. Gibson:—

> The formation of such an association would be of little benefit. The company officer or n.-c. officer on active service would be naturally with his own men—company, half-company, or section, as the case might be. He would as soon think of deserting his own family in the hour of trial as leave his men. Moreover, his presence would be of supreme importance to his command. The private would also not care to see his comrades go to the front while he himself was left at the base acting as hospital orderly. Still, the return would be interesting from a spirit of comradeship amongst members of our craft, as chemists' time is unfortunately against us, but I would recommend all who can to join a Volunteer corps—it is certainly good for the individual and good for one's country. I have spent some of the most enjoyable hours of my life with my company when on duty at manœuvres, &c.

Those who are not yet Volunteers may well consider whether they can spend their hours for recreation so profitably as they might in the service of their Queen and country.

Mr. Grim Bones: "A gross of patent medicines! What on earth do you want with such a lot?" Mrs. Doser's Boy (proudly): "Ma's going to take the lot. She wants to get her picter into the papers."

Chemist's Assistant: "That woman tried to beat me down in the price of castor oil." Chemist: "What did she say?" Chemist's Assistant: "She persisted that I ought to make it twopence cheaper, because she had to pay her little boy to take it."

Aunt Geehaw (of Hay Corners): "Did the story you were just readin' in the newspaper end happily, Joshua?" Uncle Geehaw (approvingly): "Gosh! Yes; the beautiful heroine got cured of an incurable disease, an' it tells the name an' price of the pills that did the trick!"—*Puck.*

"The Non-arrival of the *C. & D.* to-day reminds me that I have not renewed my subscription. As I would not be without the journal for five times that amount I herewith enclose 10*s.* with all good wishes." So wrote a subscriber (261/18) on January 13. We give a month's notice of the expiry of any subscription, in order to ward off any possibility of cerebral anæmia which deprivation of the *C. & D.* might induce.

Veterinary Notes.

By M.R.C.V.S.

Canine Ailments.

One of the most frequent subjects upon which chemists and druggists are consulted is constipation in the dog. There is much misconception in regard to this, and it is necessary to emphasise a few points in connection with the anatomy and physiology of the bowels—points of difference between the dog and other domesticated animals which throw light upon several matters affecting the health of the animal and the comfort of persons living in the same rooms with him. That the œsophagus of the dog is larger than the smaller parts of the bowel (duodenum, &c.) is often stated as a reason why swallowed bones or foreign bodies constitute a special danger. Measured *in situ*, no exception can be taken to the statement, but as a matter of experience it is found that the intestine is capable of expanding to an equal or even greater extent.

Proof of the latter is to be met with in those dogs trained to the trick of catching coins and presenting them at the counter in payment for biscuits. Every now and again the penny or smaller coin is received beyond the dorsum of the tongue where that organ can no longer control it. The pharyngeal muscles, it will be remembered, are semi-involuntary—that is to say, act on the stimulus of a morsel of any kind when brought into contact—and it follows that when the object has passed beyond the control of the tongue it must go down the gullet or be there arrested. Such accidents only occasionally prove fatal by causing obstruction, repeated oilings of the canal commonly effecting the desired object of passing out the coin *per rectum*. The lumen of the small intestine, in a medium-sized dog, is less than half the diameter of the penny, and its passage therefore must be due to the great extension which is possible without impaction or inflammation. A very curious case in this connection occurred in Germany, where a gentleman in the act of throwing a biscuit, threw also his diamond ring down the dog's throat, and desired to have the dog killed that he might recover the ring. The owner naturally objected, and while legal proceedings were in progress oleaginous draughts were administered, and the ring was recovered without very serious damage from the digestive process. Constipation does often arise from the presence of wholly indigestible bodies, as puppies are prone to eat coal and swallow parts of the slippers with which they play at tug-of-war and other games.

Obstructions of this kind are diagnosed by repeated strainings and ineffectual attempts to unload the bowel; but examination will afford evidence that the rectum is empty. Again, dogs are observed to posture again and again as though troubled with constipation, yet a thin offensive matter trickles from the anus, and exploration proves that no impaction is present. How this happens is what I will attempt to show after the preliminary observation that some considerable straining, especially on the part of dogs getting but little exercise, is natural and physiologically correct.

The biscuit-fed dog who gets no bones at all will be observed to pass pultaceous fæces, and his owner will be quite satisfied with his state of health, while laying the foundation of disease which will presently make him a very unpleasant companion

In the posterior bowel of the dog are situated anal pouches whose office it is to secrete a greasy material resembling mercurial ointment in colour and consistence, and with an odour resembling decayed cheese. Now these glands in health pour out just sufficient of the lubricating-material to enable the animal to get rid of the plug which is formed by the phosphatic matters of his natural food (consisting largely of bones) so long as he gets sufficient exercise as a preliminary to the exertion, which, for want of a more explicit term, has been called straining. It is only when excessive that it really amounts to straining, the act of defæcation being arduous in a perfectly healthy dog, unless stimulated by considerable exercise.

Relaxing foods call for no work on the part of these glands; their secretion becomes abnormal, the unctuous material is not squeezed out in the effort to pass fæces as it should be, and many bad consequences follow. One is chronic constipation when a fair mixed diet is given again. The anal pouches have atrophied and lost their function of providing lubricating-material. Another is obstruction of their orifices and inflammatory swelling. A third is a chronic discharge—not enough in bulk to attract the attention of persons unwilling to attend to what they regard as unpleasant details, but making itself very obvious to another sense in the case of dogs kept in close living-rooms. A fourth result is perineal abscess, attributed generally to the dog's habit of drawing the parts along the ground. No doubt abscess and injuries to the parts under the tail arise from impatient scratching on the earth, but the irritability is primarily in the rectum, and it is to relieve it that the animal "draws his chariot" as it is called among dog fanciers. Dogs resort to this artifice when unable to get rid of a tapeworm, or a piece of string, grass, or other body, hanging out of the posterior bowel, but such conduct will be occasional, not habitual, as will be the case with one suffering from an inflammatory condition of the anal pouches.

When asked for an aperient for a dog, one may be doing better service to a customer to recommend a bone, but the pharmacist who will take the trouble to investigate the causes will earn the lasting respect of customers who will place more confidence in his *obiter dicta* if he will make himself first conversant with the diseases he is asked to treat. One of the reasons why the old-fashioned dose of castor oil is still to be recommended is that it clears away present obstructions, while inducing a tendency to constipation, so-called, subsequently. The old mess of syrupus rhamni and oleum ricini is difficult to administer, but why not prescribe a sufficient number of capsules? In conclusion I would recommend exercise and a mixed diet, not a laxative one, as a cure for constipation.

HORSE-BALLS.

THE capsules in which horse-balls are now so generally sent out appeal more to the pharmacist than to the veterinary surgeon. The latter would never give a ball in gelatin if he could have it in paper, as the former is more readily returned from the back of the mouth. The idea that it will slide down the gullet more easily than a paper-covered ball is theoretical; any man who has administered half-a-dozen horse-balls would prefer paper, and I have seen some take a piece of newspaper to wrap the gelatin-coated ball, before introducing it into the mouth. Gelatin wrappers take longer to dissolve in the stomach—that is to say, the action is longer delayed in the case of physic-balls though one would hardly have supposed that the cause could be a greater solubility of paper above gelatin. It is the reverse outside the stomach, but experience of both upon a large number of horses is the practical test.

THE PHYSICAL CONDITION OF DRUGS.

To overcome the inquisitiveness of some customers, yellow, pink, and blue salts have been supplied to veterinary surgeons by some firms specially catering for them, but the drying of mag. sulph. causes it to lose more than half its aperient qualities. This is a question that has long troubled the writer. One sees that ferri sulph. *plus* the water of crystallisation is quite different in its action from the "exsiccata," but why? If the H_2O is added, is it not the same? Chemically it may be, physically and physiologically it is not: its therapeutical value is altered. Butter is not chemically changed by being spread upon bread: the hungry schoolboy can eat three or four ounces on less bread than a frugal mother approves, but not for a new football would he eat the like quantity of butter from a spoon. If for a prize he accomplished the feat, emesis would in all probability follow. Can we be sure that the tablet has permanently superseded the tincture, and the concentrated forms of foods and drugs are equal or superior to the less elegant and convenient preparations introduced to the body under physical conditions so widely different?

PROPOSED NEW CUSTOMS TARIFF.—Several members of the Austrian and Hungarian Governments have met at Buda-Pesth, to proceed with the preliminary work of drawing up a new general Customs tariff.

Veterinary Formulæ.

THE annual report (1898) of the Chief Inspector of Stock for New South Wales (Mr. A. Bruce), which has just been issued, contains some useful veterinary hints. Referring to the diseases and ailments of horses, Mr. Bruce reports that 442 horses affected with parasitic blindness, in five districts, had been successfully treated by the following methods:—

Vermifuge.

Arsenic	5 gr.

carefully mixed with 3 lbs. bran. Three doses (5 gr. arsenic in each) at intervals of one week between each dose; or—

Turps	2 oz.
Linseed oil	1 pint

Make three draughts for each horse at intervals of one week between each draught.

Tonic.

To follow the vermifuge if the disease has been allowed to make considerable progress:—

Black antimony	2 dr.
Tartar emetic	1 dr.
Sulphate of iron	3 dr.
Common salt	½ oz.
Powdered sulphur	½ oz.

One dose. To be given, at intervals of three days, for three weeks in chaff or damped bran.

In the localities in which the horses are attacked licks of salt and sulphur should be provided for them in troughs in the paddocks, and the horses could be enticed to the licks by a little bran and chaff.

In five districts horses were reported to be suffering from Australian string-halt. This the veterinary experts of the department consider to be a parasitical disease, and the curative treatment is to expel the parasites by the administration of anthelmintics. The disease is very infectious, and preventive measures are important. The following

Anthelmintic and Tonic

is recommended:—

Common salt	2 lbs.
Powdered sulphur	2 lbs.
Black antimony	1 lb.
Tartar emetic	½ lb.
Sulphate of iron	1 lb.

Divide into ounce doses and give in the feed, which may be varied by the administration of a draught every alternate day, composed of linseed oil (raw) 1 pint and spirit of turpentine 2 oz.

For Footrot

the dressings recommended by the Chief Veterinary Inspector are—

Arsenic	1 to 2 oz.
Carbonate of potash...	2 to 4 oz.
Water	1 gal.

The mixture to be boiled slowly for half an hour until the arsenic is dissolved. To be used in troughs for the sheep to walk through.

Sulphate of copper (½ lb. to 1 lb. to 1 gal. of water) may be used instead of arsenic.

To follow the caustic applications, use the following

Healing Dressings.

(1)

Stockholm tar	20 parts
Carbolic acid	1 part

(2)

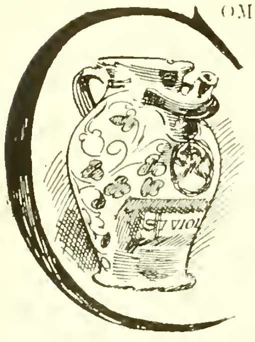
Stockholm tar	8 parts
Powdered bluestone...	1 part

(3)

Oil of tar	10 parts
Carbolic acid	1 part
Olive oil	1 part

Another method is to sprinkle quicklime on a dry surface and walk the sheep through it. Before any dressings are used the whole of the loose horn should be carefully pared from the diseased feet. On the dressing being applied the sheep's feet should be kept clean and dry for at least three hours afterwards.

Pharmaceutical Ceramics.



COMPARATIVELY few chemists are aware of the important part that medical and pharmaceutical pottery plays in the cult of pottery-collecting. We refer to the earthenware vessels which were used in early times for storing drugs and galenicals in dispensaries and pharmacies, and which exist in fairly large numbers owing to their relative safety on the shelves of pharmacies, where they were less exposed to the accidents which domestic pottery is always associated with. Some pottery-collecting pharmacists have made mediæval drug-vessels a speciality. It is a branch of the subject in which there is less competition and greater chance of interest, the deciphering of the labels on the vessels being a task in which the pharmacist's special talents are called into play. On several occasions during the past dozen years we have referred to small private collections in this country, that of Mr. Huskisson being one of the best, but all are excelled by the collection of M. J. Comein, Pharmacie Anglaise, 24 Marché aux Souliers, Antwerp, which numbers 320 specimens. We are indebted to M. Comein for photographs of his specimens, some of which we use for illustrating different varieties, but our remarks are not confined to his specimens, and we exclude all reference to Chinese and Japanese porcelain, and many celebrated pottery manufactories which are not of importance pharmaceutically.

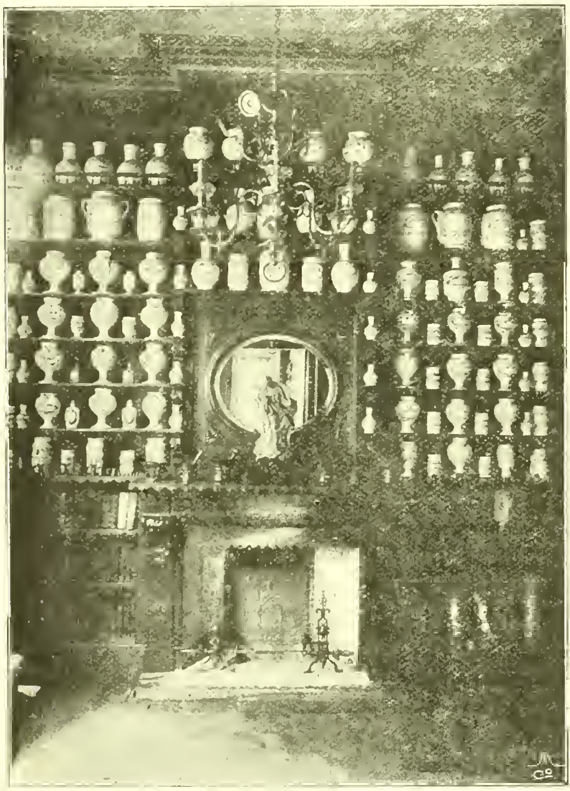


Fig 1.—Photograph of one side of M. Comein's office, showing part of his collection of 320 pharmacy-pots. On the mantel-piece are several bronze mortars dating from 1500 to 1600, on the shelves level with these is a collection of old copper weights in use a century ago. The books on the lower shelves are old Pharmacopœia and works on pharmacy and botany.

We divide the subject into (1) ancient pottery, (2) mediæval pottery, and (3) porcelain. Mediæval pottery is the largest division, and it is convenient to sub-divide it into (*a*) Maiolica and (*b*) Fayence. The terms maiolica and fayence are interchangeable, but among connoisseurs it is recognised that the former applies especially to the productions of Spain and Italy and the latter to those of other European countries, fayence being also as a rule of later date than maiolica. By maiolica and fayence are meant earthenware of baked clay covered with an enamel or glaze, porcelain (or china) differing from it in being semi-translucent and composed of a fusible (felspar) and an infusible (kaolin) ingredient. After the discovery of the process for making porcelain by the Western nations, those manufactories which at the time were producing fayence usually added porcelain to their output.

Ancient Pottery.

Sir John Lubbock says, in "Prehistoric Times," that no fragments of pottery have yet been found which can be referred with confidence to the Reindeer period. There is also no well-established evidence of the existence of Palæolithic pottery, and it is not till the Neolithic age that the knowledge of the fictile art appears to have been at all widespread. In Egyptian tombs it is not unusual to find small earthen pots containing either an ointment or a vegetable extract. These pots, or *han*, are of terra-cotta and unglazed. During the excavation of the ancient cities of Pompeii and Herculaneum, in addition to surgical instruments, numerous pharmacy and drug bottles were found, and are shown in the museums of Naples and Florence. Of the drug-vessels used by the ancient Greek school of medicine, almost the only remains are the lecythi or lekythoi—little vases for containing lycium or lykion. Dioscorides mentions lycium as an excellent application for various eye-diseases, there being two varieties of it, one obtained from Lycia and the other from India, the latter being the more esteemed. Galen and Oribasius speak in high terms of the drug, and Avicenna, the Arabian physician who, with Galen, figures on the Pharmaceutical Society's diploma, gives a long account of it. Dr. Royle some years ago identified the Lycian lycium as an extract from species of *Rhamnus*, and the Indian variety as from the wood and roots of several species of *Berberis*. Sir James Simpson recorded in 1854, in the *Journal of Medical Science*, some experiences with lycium brought from India. It was found useful in inflammatory eye-diseases when tried in the Edinburgh Eye-dispensary. The lecythi themselves are only small, the one on the left in fig. 2 being a little over 1 inch in height, the other one nearly 2 inches. The two lecythi figured are of earthenware, but similar forms are sometimes met with made of lead; and, as showing the costliness of the drug, it may be mentioned that the internal capacity is in like proportion to the outside, as are the bottles in which otto of rose was formerly retailed. The little vase is labelled, in Greek, "Lycium of Hercules."

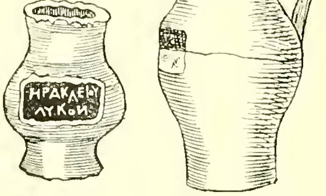


Fig. 2.

Ancient British pottery was made of coarse clay often imperfectly baked. The decorations, usually in zigzag or herring-bone patterns, were very crude. Among the specimens in the national collections, which have chiefly come from British barrows, we have not been able to trace any that were used for pharmaceutical purposes. On the other hand, collections of Roman pottery furnish numerous examples of pharmaceutical ware. Roman pottery is of a red colour, due to the admixture of iron (in the form of ochres) with the clay, and is glazed. It is generally known to antiquaries as Samian ware, from Samos having been celebrated for its manufacture of a red ware. The scientific speculations as to the uses of the vessels found adds a spice of variety to collections of Samian ware. The little vases in fig. 3 were found in a Roman kiln at Castor (Peterborough), and being, it is supposed, for the purpose of containing ointment, are known as unguentaria. Vases of similar shape are also designated gutturnia, as they allow the liquid contents to exude only in drops. In making deep excavations in the City of London the workmen are almost sure to come across specimens of Roman pottery, so rich is the subsoil in these relics. The two mortaria in fig. 4 were probably only used for grinding substances for domestic purposes, but they are interesting to pharmacists. The mortarium on the right was found when Cannon Street was made in the fifties, and seems to show that even then there was a Chemist and Druggist in Cannon Street. The inside of the mortar is lined up to a certain height with grains of quartz forced into the clay after it was moulded. It will be noticed that both mortars have spouts for pouring out liquid contents, and we have often wished that modern earthen mortars had spouts as pronounced as the one shown on the left. This latter, of buff ware, is a later specimen of Romano-British pottery found at Smithfield. The word "Albinus" stamped on the edge is the potter's mark. In the illustrations of ancient pottery we have only given typical samples: many more may be seen in the British Museum and the Guildhall Museum, the last-mentioned being particularly rich in pottery found in London. We might also mention that in the collection of Mr. William Ransom, of Hitchin, there are specimens of feeding-bottles in Samian ware (some of these were figured in the *C. & D.*, April 8, 1893, page 480).

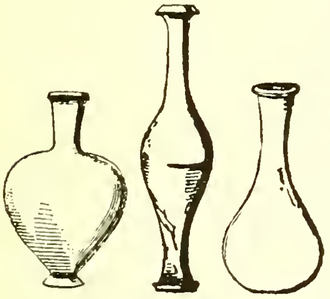


Fig. 3.

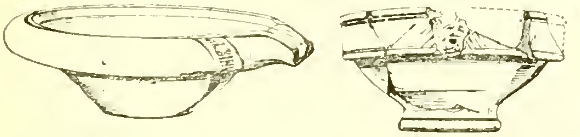


Fig. 4.

Medieval Pottery.

Most of the pharmacy vases extant are either maiolica or fayence. For convenience, we designate those vessels intended for solids pharmacy-jars, and those for liquids pharmacy-ewers. The ewers generally have spouts and handles, but many examples have neither. The most usual shape for pharmacy-jars is that known as the albarello. Fig. 5 shows three kinds of albarelli. The shape is said to be an elaboration of a joint of bamboo, in which anciently drugs were imported from Persia. This may or may not be the case, but the cylindrical form, with slightly concave sides, is one which would suggest itself to a potter as very convenient to handle. The double-gourd shape (centre, fig. 5) is found in both pharmacy jars and ewers. Pharmacy-vases, which term includes pharmacy jars and ewers, of Italian make are often referred to by their Italian name, "Vasi de Spezieria." In regard to the decorations, they are in one colour or several (polychrome). When executed in a single colour varied only by the use of its different shades the decorations are said to be in camaiëu. The decoration is known as grisaille when in grey.

Maiolica.

Maiolica-ware seems to have been introduced to Europe by the Moors during their occupation of Spain, and from Spain the process of manufacture spread to Italy. Hispano-Moresco maiolica is a distinct class; it is ornamented with Moorish designs and painted in metallic lustres produced by means of copper. From an artistic point of view Spanish maiolica is not to be compared to the Italian. Spanish maiolica was made at Malaga, Valencia, Toledo, and Barcelona. There are a few examples of Valencia albarelli of the fourteenth and fifteenth centuries in the British Museum which show the copper lustre very well. The decorations are in blue, buff, and reddish-brown; inscriptions, when they occur, are in mock Arabic.

Early specimens of Italian maiolica resemble the Hispano-Moresco pottery, and are known as mezza maiolica. They are glazed with a lead glaze, and show the peculiar iridescent and metallic lustres which we have spoken of as characteristic of Spanish pottery. Later Italian work is, as a rule, decorated in rich colours; yellow, opaque blue, green, and violet being most commonly employed. A stanniferous glaze is used which is said to have been first introduced into Italy by Luca della Robbia. The designation of Raffaelle ware given to Italian maiolica is on account of the fact that some specimens have on them copies of Raffaelle's designs.

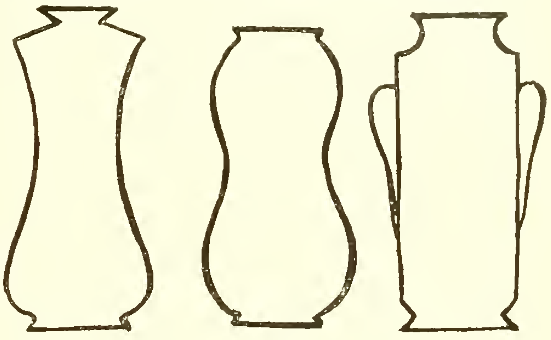


Fig. 5.

The productions of Faenza are probably the most ancient of all Italian maiolica. Early pieces are archaic in character, the decorations being very ornamental, especially the grotesques or arabesques, and in camaiëu in blue or yellow ground. The Musée de Cluny possesses a pair of pharmacy-vases, dated 1500, one having on it the name "Faenza."

The following are the principal examples of Faenza pharmacy-vases in the British Museum:—

(1) A specimen decorated with masks, and dated 1500.
(2) One dated 1530 with a representation of a man hunting.
(3) One with a portrait of Savonarola.
(4) A pair of albarelli with coats-of-arms on them.
(5) An elaborate two-handled pharmacy-ewer in blue, yellow, and green, with a representation of the triumph of Galatea (after Raffaelle).
(6) A pharmacy-jar with a picture of St. Sebastian.
(7) A large pharmacy-jar labelled MOSTARDO.
(8) An elaborate albarello in yellow, blue, green and red, with portrait of St. John.

In the South Kensington Museum there is a pharmacy-jar from Faenza labelled DIA CHASSIA, which has on it a picture of a man powdering drugs in a mortar. The man is sitting on the floor, and has the mortar between his legs. The Salting Collection in the same museum has a very beautiful Faenza pharmacy-ewer in polychrome, blue predominating. It is labelled JULEP OXIMEL SIMPLEX, and has on it a representation of a fight between a Christian knight and a Saracen. It may be noted that the labels on these vases are often subordinate to the decoration, and occasionally are on the back of the vase.

At Urbino a factory existed in the latter part of the fifteenth century belonging to the Duke Guid' Ubaldo II., who was a great patron of maiolica. He had a set of pharmacy-vases made for the dispensary attached to his palace which have the distinction of being the costliest pharmacy-vases in the world. At the Duke's death his heir presented them to the shrine of Our Lady at Loreto, and they are still preserved in the Santa Casa. It is said that Queen Christina of Sweden offered for them their weight in gold, as did also Louis XIV. The Grand Duke of Florence wanted to exchange them for silver vases of equal size. Many examples of Urbino ware are decorated after Raffaelle's designs.

At Gubbio, in the Duchy of Urbino, another famous pottery existed. Gubbio is celebrated chiefly for the works of one artist—Maestro Georgio, who seems to have monopolised a peculiar ruby lustre in his decorations. There is a large pharmacy-jar from Gubbio, dated 1501, in the British Museum, which has in the centre a picture of a combat.

Castel Durante (near Urbino) had a pottery as early as

1361, and many pharmacy-vases from this fabrique are extant. In the Sèvres Museum there are examples dated 1555, and in the Marryat Collection one is dated 1550. In the Louvre there is a fine albarello painted with tropies and grotesques and the bust of a man. The name is on a cartouche at the back.

Sebastiano di Marforio is the artist of Castel Durante whose name and date most frequently occur. Several examples of Castel Durante pharmacy-vases are contained in the British and South Kensington Museums. Many are decorated with coats-of-arms and painted with amorini (cupids) and garlands. The marks on Castel Durante ware are very confusing. Many of them are thought to be the marks of the pharmacists for whom they were made.

Another Italian pottery existed at Diruta (near Perugia). Here the maiolica was decorated with a yellow lustre edged with blue. Some pharmacy-vases are extant dated 1579, and have portraits on them.

A pottery at Siena was chiefly noted for its tiles, but there is a pharmacy-jar dated 1501 in the South Kensington Museum.

At Rome maiolica was made, the first authentic record being furnished by two pharmacy-vases dated 1600 in the Ashmolean Museum. Other celebrated fabriques existed at Caffagiolo, Pesaro, Verona, Venice, and Florence. One elaborate double-handled pharmacy-ewer in the British Museum, of Italian maiolica, has on it the representation of a bear climbing a pole, with the motto "Et sarrimo boni amici." It is labelled "AQA. BORASIN."

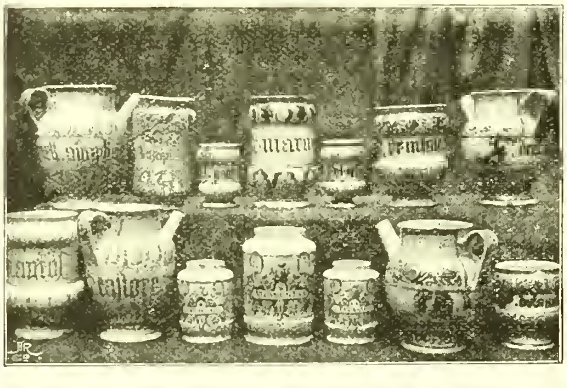


FIG. 6. Group, mostly of Italian maiolica pharmacy-vases, showing several specimens of the double-gourd shape. The three centre jars on the bottom row are Tournay polychrome.

This is an appropriate place to mention the maiolica accouchement-cups and covers (scudella and taglieri), of which examples are contained in the British and South Kensington Museums. They were made at Urbino and were flat vases richly decorated with accouchement-scenes, and intended to hold some of the requirements of a mother at that period.

Fayence.

The name fayence is said to be derived from Faenza, the Italian town where pottery was made, but this origin is doubtful. Fine kinds of fayence have a brilliant white body, and are from their thinness very good imitations of porcelain. The glaze used was a stanniferous one.

Of French fayence, the rarest is that of Saint-Porchaire (known also as Henry Deux or fayence d'Oiran). Only sixty pieces, of which twenty-six are in England, are known to exist. There are no pharmacy-vases included in the catalogue of existing Saint-Porchaire.

Rouen pottery is known to have existed in 1545, the evidence being a document in which Masso Abaquesne, "esmailleur en terre," treats with an apothecary of Rouen to supply him with enamelled earthen utensils necessary for the "estat d'apothicairerie." The order is for 346 dozen pots of all sorts; and as the potter is interdicted from supplying any other person during the delivery and for six weeks afterwards, it is probable the apothecary was a dealer in earthenware. Rouen fayence is considered to be the most artistic of the French fayences by reason of the national character of the decorations. The designs and ornaments are in blue camaïeu or polychrome. Genuine specimens are rare, but spurious Rouen fayence made in modern times is often to be met with.

Two other noted French fayences are Moustiers and Strasbourg. Of the former fabrique no pharmacy-vases exist. Strasbourg fayence is generally decorated with flowers in red, rose-colour, and green, and was made between 1700 and 1780. The name of the maker—Hanung—often occurs on this ware. There is also in the South Kensington Museum a pharmacy-jar decorated in blue, from the pottery of Goult (Vaucluse), which existed in the seventeenth century. It is of double-gourd shape.

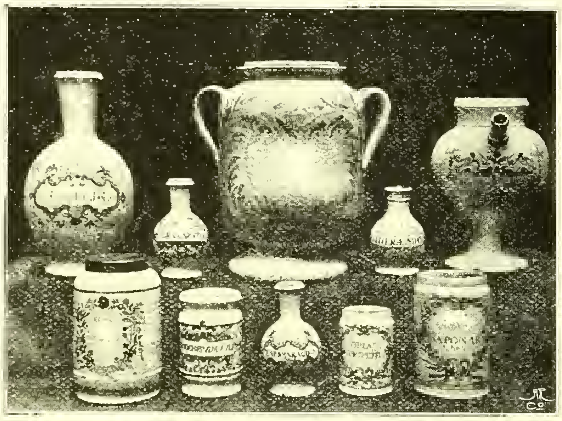


FIG. 7.—Group of pharmacy-vases. The two jars on the left side, bottom row, are Strasbourg fayence. The jar on the right is a specimen of the rare Rouen ware. The centre jar on the top row is Spanish, the other specimens in the group being of rare polychrome Delft.

In Belgium fabriques existed at Luxembourg, Brussels, Lille, and Tournay. The Tournay works were in existence in 1696. Tournay ware is generally decorated with flowers in polychrome (fig. 6).

Bayreuth and Nuremburg are the best known of the German potteries. In Sweden works existed at Stockholm, and there is a document extant, dated 1741, in which a potter named Hünger obtained a right to make pharmacy-vases and sugar-loaf moulds. He did not succeed in his business, however.

Dutch fayence is famed on account of the production at Delft of a ware which is considered to be the most perfect imitation of Oriental porcelain there is. It is possible, as the Dutch did a fair amount of trade with China, that the Delft potters had at first actual Oriental specimens to copy. Many celebrated artists were employed in decorating Delft ware. The decorations are mostly in blue, on a brilliant white ground; polychrome Delft is rarer. M. Comein has some examples of polychrome Delft pharmacy-vases which are believed to be unique. It may be noted that Delft pharmacy-vases were often exported with the labels blank, the name being afterwards added. A pharmacy-jar in Jermyn Street Museum shows this very well, the lettering, EL : LENITIO, being of an English character and different tint from the decorations.

From Holland the manufacture of Delft ware was introduced into this country at Lambeth, Bristol, and Liverpool. Specimens of Lambeth ware are extant dated 1631, and in 1676 a Dutchman named Van Hamme is known to have settled there with a staff of Dutch workmen, and taken out a patent for making Delft ware. Lambeth Delft is scarcely to be distinguished from that made at Delft, but as a rule the glaze is thicker and scarcely so opaque. The glaze on Bristol Delft is distinctly of a blue tint. The different tints of the paste are also a means of discriminating the kinds.

In the Jermyn Street Museum there are two pill-tiles of Lambeth Delft. They both have on them the arms and motto, in blue, of the Society of Apothecaries, in one case combined with the arms of the City of London. One of the tiles is octagonal, and has holes for suspension. The other is in the form of an heraldic escutcheon or "heart." In the British Museum there are some ointment-pots of Lambeth make. Some of them are similar in shape to Singleton's eye-ointment pots, others being like ordinary gallipots. The names on these pots are "White, chemist, 8 Haymarket," "Grindle, Pall Mall," and "Hastings & White, 17 Haymarket." Some of our readers may be able to trace these firms. The reputation of Lambeth as a pottery-district is in the present day well maintained by the productions of Doulton and Stiff.

The chief Delft factories at Bristol were those of Richard Frank and Joseph Flower. Frank seems to have established himself as a "gallipot-maker" as early as 1697. The Bristol potteries of Powell and of Price are old-established and known to pharmacists of the present day on account of the ginger-beer bottles and chemical earthenware turned out.

Liverpool Delft was first made in 1716 (as nearly as can be traced), and one maker at least—Zachariah Barnes—made a speciality of pharmacy-vases. The pounce-pots (a curious reminder of ante-botting-paper days) made by Richard Chaffers are often met with. The top of the pot is concave, so that the surplus pounce-powder could be returned to the pot. [Pounce was a powder which was dusted on ink-writing to dry it. It used to be a regular article of druggists' stock sixty years ago, and was simply powdered cuttlefish-bone or other absorbent powder.]

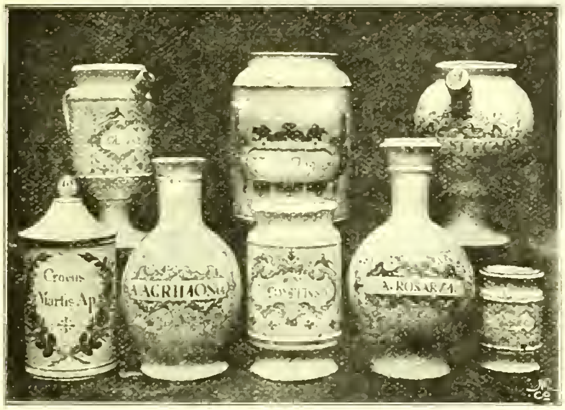


Fig. 8.—This group shows three different shapes of pharmacy-ewers. The pharmacy-jar on the left of the bottom row is Strasbourg fayence. The centre jar in the top row is probably Spanish maiolica, the others being Delft fayence.

Nottingham and Derby potteries are interesting to pharmacists on account of the posset or caudle pots which were turned out there in large numbers. Posset was a mixture of hot ale, milk, sugar, and sippets of oatcake. Many posset-pots have spouts, and appear to be the predecessors of the modern invalid-feeders. The name caudle-cup seems to indicate that they were used for invalids sometimes, as a caudle is "a warm drink given to sick persons."

In regard to fixing dates of many specimens of drug-vases, it may be remarked that the label is often a guide. M. Comcin points out, in the letter which accompanies his photographs, that "REQUIES NICOLAI" and "LOHOCH E. PULMONE VULPIS" were in the Brussels Pharmacopœias for 1641, 1652, and 1747, but not in the 1759 edition. The formula for "Lohoch de Pulmone Vulpis" is:—

Pulmonis vulpini siccati	℥j.
Succi glycyrrhizæ	ʒj.
Seminis anisi...	℥j.
Seminis fœniculi	℥j.
Capilli veneris	℥j.
Sacchari clarificati	℥xv.

Conterantur omnia tenuissime, et cum saccharo excipiantur.

Absterigit et consolidat ulcera pectoris et pulmonis, et præferendum est aliis remediis in phthisi.

The following are some of the names we have met with on pharmacy-vases. Perhaps the articles, as detailed in next column, may be identified by some of our readers.

S. Balsamic (on a pot dated 1714)
S. Anthos (dated 1652)
S. Tussilagi (dated 1660)
V. Martial v̄ (dated 1680)
E. Hellebor (dated 1750)
Filoni Roman (sixteenth century)
Tr. di Dialtera (sixteenth century)
E. Caryocos (seventeenth century)
S. Iuiubinus (seventeenth century)
Piperi d fori (about 1580)
Sy : D. Bisanti (about 1590)
Comino Pesto (about 1530)
O. Irino (sixteenth century)
Ol Ulpino (sixteenth century)
Benedeta Siprice (sixteenth century)
Sir : di Cedro (sixteenth century)
Cons. di Grugnial (sixteenth century)
Cons : d'Assenz (sixteenth century)
El : di Baccas lavri (sixteenth century)
Ceroto Stomatico (sixteenth century)
Aqua Firmeterra (sixteenth century)
A. di Cicoria (sixteenth century)
Oli di Scorpio (sixteenth century)

Porcelain.

The manufacture of porcelain is said to have been begun in China during the Han dynasty (B.C. 185—A.D. 87), but no specimens made prior to the Sung dynasty (960–1259) survive to the present day. It was under the Ming dynasty (1368–1644) that porcelain received its greatest development. The secret of porcelain-manufacture was rigorously kept, and it was not till 1520 that specimens reached Europe. The introduction of Chinese porcelain produced a strong desire to imitate it. Fair imitations were made at Florence in the sixteenth century, and specimens of this rare Florentine ware in the British Museum include a pharmacy-ewer. This sample is blue and white, and the label is blank. Porcelain pharmacy-vases are rare, it being found that fayence answered every purpose. Two porcelain pharmacy-jars in the Franks Collection are small, prettily decorated with flowers, and in shape like "Virol" jars.

It is somewhat remarkable what a prominent part the pharmacist or his older counterpart—the apothecary—played in the discovery of porcelain in Europe. John Böttcher, an apothecary's assistant, of Berlin, discovered the secret of the "hard" Chinese porcelain. Böttcher fled to Saxony to escape prosecution on account of his supposed secret of making gold. At Dresden he turned out some crucibles which were fairly translucent, but of a red colour. His attention was called to the proper kind of earth to use for white porcelain by having to examine some hair-powder, which was heavier than the wheaten flour usually employed. He found it was kaolin, and using it in his experiments produced some fair specimens of white porcelain. Augustus II. of Saxony, recognising the importance of the discovery, procured Böttcher's services and founded the celebrated Meissen factory. The factory was a veritable fortress, and over the door was written, "Geheim bis ins Grab" ("Be secret until death"). Böttcher must have been a man of great perseverance, as we read of him that he used to watch the furnaces for three nights and days together, and at the same time keep the workman awake by his vivacious conversation. Böttcher's first mark was a caduceus, or wand of Æsculapius.

Plymouth china was first made by William Cookworthy. Cookworthy was in 1719 apprenticed to a London chemist named Bevan, and walked from Plymouth to London, although only a lad of 14. At the completion of his apprenticeship he returned to Plymouth, and with the co-operation of his late master opened a chemist's shop in Nutt Street, Plymouth, as "Bevan & Cookworthy." Cookworthy experimented for years with the native earths with a view of making porcelain, and when at last he succeeded with kaolinic earth found at Tregonning Hill, near Breage, he started a pottery at Coxside. The works were transferred to Bristol in 1774.

Josiah and Thomas Wedgwood, the founders of the classic Etruria Works and makers of Wedgwood china, are known to chemists on account of their scientific work. Thomas Wedgwood's researches resulted in the discovery of photography. In 1792 he contributed to the Royal Society some observations on the production of light from different bodies by heat, and in 1802 his paper entitled "An account of a method of copying paintings on glass and of making profiles by the agency of light on nitrate of silver," in which Sir Humphry Davy collaborated, was published in the *Journal of the Royal Institution.*

Metal Mortars.

[In this article Miss Florence Peacock, who has made a study of metal mortars, indicates how much they were used in households before more expeditious mechanical appliances were introduced, and describes some of the rare specimens in Mr. England Howlett's collection.]

FEW people to-day have any conception of the important part played by domestic mortars in the Middle Ages. It is a great mistake to suppose that they were chiefly used by those who practised the healing art and the vendors of drugs. They were a necessity in every household; now they are comparatively rarely used for domestic proposes. From the earliest times to which we can trace mankind mortars were known. Corn was ground to flour in them, and to this day the North American Indian mixes in tiny stone mortars the pigment with which he decorates himself in peace and war. The subject of which I am writing is, however, the metal mortar of the Middle Ages, which continued in use until the close of the last century. An end came to the long reign of the mortar in this wise. The latter half of the eighteenth century saw a great development of the mechanical means by which things could be crushed, ground, and disintegrated. Until then, with but few exceptions, almost everything that was needed for household use was bought whole; a revolution came, however, with the invention of various kinds of grinding-machines. Before the adoption of these mills all substances which could only be used in a powdered state had to be ground by the aid of the household mortar and pestle. Pepper, mace, and other spices, mustard, and many other things were obtained in their whole state and pulverised at home.

The long, dark winter evenings were often spent by the female domestics of the family in pounding the various things that were needed by the household in a powdered state. When they had been crushed and ground, the powder was emptied from the mortar into a sieve, and all the substance which was too coarse to go through it was returned to the mortar and belaboured with the pestle until it was fine enough—exactly as the chemist-apprentice of modern times has to do with certain drugs.

Even when sufficient spices and other condiments had been pounded and put away for future use, there yet remained a great deal to be done with the mortar and pestle. Nearly all families above the rank of the peasantry dispensed drugs and medicines in various forms; in almost every case where the process of distillation was not necessary, pounding in a mortar was needed. Every household of any position kept two mortars for medicinal purposes, one to use in the case of all ordinary drugs, and the other kept simply for poisons.

Many of these domestic mortars were exceedingly beautiful as works of art. They were cast by bellfounders, being usually composed of bell-metal, and the ornaments decorating them were generally made from the same moulds the makers used for their bells. This was done because it was easier and cheaper to utilise the casts which the makers already had than to obtain new ones. Many mortars are dated; the earliest known English specimen with a date is in the museum at York, and has upon it an inscription in Latin setting forth that it belonged to the abbey of St. Mary in that city, and the date is A.D. MCCCVIII. This is the finest English mortar known, though, of course, at any time a better one might be discovered.

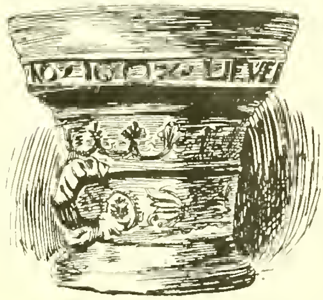


FIG. 1.

There are a great number of handsome Dutch mortars scattered about the country. One of the best (fig. 1) of these is in the possession of Mr. England Howlett, who has the finest collection of mortars in private hands in this country. It is 5 inches high, and has a diameter of a little less than 6 inches across the top. It is highly ornamented and is inscribed "LIEVEDE VERWINT ALLE DINCK, A.O. 1607. This is the Dutch rendering of "Amor vincit omnia," "Love conquers all things." Chaucer in his "Canterbury Tales" makes the abbess have this motto engraved in its Latin form on her bracelet.

The following mortars here illustrated also belong to Mr. Howlett. Fig. 2, though differently shaped from the one already described, is nearly the same size, being 5 inches high and $6\frac{3}{4}$ inches in diameter. It has three fleurs-de-lys on each side, six in all. One of the handles is broken off. Its probable date is about 1550. The next mortar figured (fig. 3) has two ornamental bands round it; its height is just under 6 inches, with a diameter of $7\frac{1}{4}$, and it is of the time of James I. Fig. 4 is a perfect specimen of a small plain mortar, being very well formed. It has ear-shaped handles; the height is $3\frac{3}{4}$ inches, and the diameter $5\frac{1}{4}$ inches. Fig. 5 is drawn from a photograph of the smallest mortar which I have ever seen. It is only 2 inches high and 2 inches in diameter. It was bought in Holland by my father many years ago. Round the top is the name "ANNA MVLLE." It is of seventeenth-century workmanship.

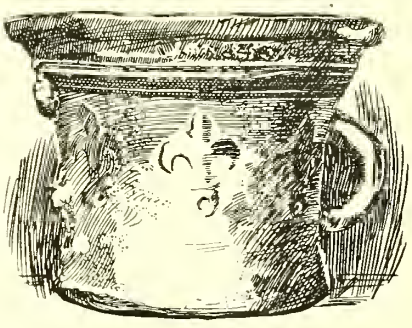


FIG. 2.

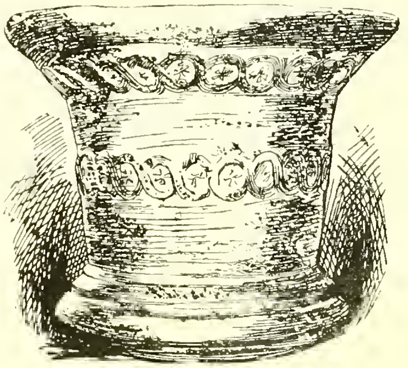


FIG. 3.

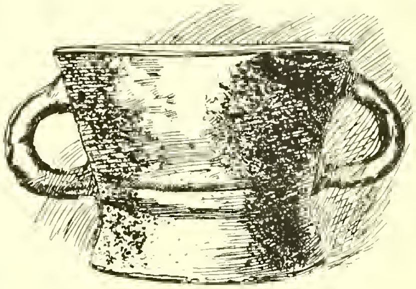


FIG. 4.

It was no uncommon thing for bellfounders to put their own names upon mortars; Mr. Howlett has a very interesting one which bears upon it "RICARDVS ME FECIT, HOLDFELD," and "GILBERT MORDEN"; the latter is doubtless the name of the owner. So far as I can discover, all the bells that Richard Holdfeld cast which are still remaining were made between the years 1599 and 1612; he cast the clock-bell of Trinity College, Cambridge, in 1610. Under these circumstances I think there can be little doubt that the mortar was made between the dates I have mentioned. Very often the founder would put on any mortar he was casting his bell-stamp, which was used much as modern trade-marks now are.

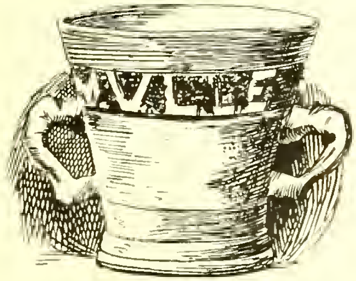


FIG. 5.

The ornaments most commonly found upon English mortars are a crowned Tudor rose or fleur-de-lys. The former being on a mortar by no means proves that it was made during the reign of Henry VII., his son, or grandchildren: one of the illustrious family of Tudor may have filled the throne at the time such stamps were made, but they were used until the reign of William III. Ornamental bands of scroll-work were also used, as well as the arms of towns and of private individuals, and in some cases the head of the sovereign. Mr. Howlett possesses two mortars with the head of Charles II. on them, and there is one in the Museum of Archæology at Cambridge.

Year by year mortars are being melted down simply for their value as old metal. Although they are now held in such slight repute, they were of sufficient value and consequence in earlier times to be reckoned a legacy worthy of especial mention. In the reign of Richard II. Margaret Legatt, of Wootton, gave Thomas Lord Berkeley, by will, a brass mortar with an iron pestle. Most likely "brass" used in this sense means bell-metal.

The foreign mortars to be met with in this country usually came from the Low Countries, though French, Spanish, and Italian specimens are to be seen; anyone skilled in mortar-lore can easily tell an English specimen from any foreign one.

Since writing the above I have had a photograph of two very interesting mortars sent to me. They are in the possession of Mrs. Head. The first one (see fig. 6) displays upon one side a stag's head upon a wreath, and is surrounded by an oval band or ornament. Most likely this is the maker's mark; I have seen another almost like it. Its probable date is somewhere about 1600. The larger (fig. 7) one is a worn specimen bearing on it the crowned Tudor rose; in this example the crown remains in a fairly good state of preservation, but the rose is almost worn away by constant rubbing. It appears to have been made between the years 1600 and 1650, but it is impossible to fix the date more exactly, for, as already stated, mortars with the crowned rose were made down to the time of William III.

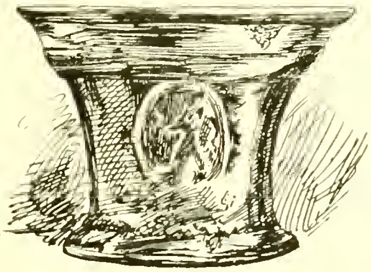


FIG. 6.

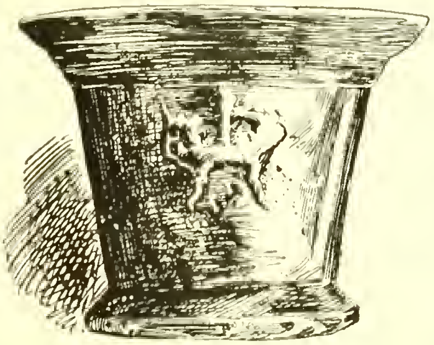


FIG. 7.

A New Pharmacologia.

PROFESSOR GUSTAV PLANCHON, honorary member of the Pharmaceutical Society and Hanbury medallist, the learned director of the Paris School of Pharmacy, has contributed to the "Grand Encyclopædia" (the French equivalent of the Encyclopædia Britannica), a history of pharmacy. His article deals mainly with French pharmacy, but that of other countries is touched upon, and the laws and methods contrasted with the French.

Professor Planchon divides his subject into (1) "Histoire de la pharmacie dans ses rapports avec les sciences"; (2) "La profession pharmaceutique"; and (3) "La législation pharmaceutique et l'excercice actuel de la pharmacie"—the whole monograph being followed by an exhaustive list of pharmaceutical literature. Professor Planchon describes pharmacy as "the art of preparing medicines," and, for the benefit of the laity, enlarges this by saying that the art is "To collect, choose, and preserve raw materials or simple drugs, to give them the necessary forms, to mix them in such a way as to compose the remedy prescribed by the doctor; this is the pharmacists' object. The raw materials are taken from the three realms of nature—they are of mineral, vegetable, and animal origin—and a wide knowledge of natural history is necessary for their selection." Their study, he goes on to say, was formerly known as materia medica, but modern authors use the more precise name of pharmacognosy. Referring to the terms "chemical pharmacy" and "galenical pharmacy," he shows that the distinction between the two is not quite natural, although authorised by the French Codex and by teaching in the schools. By the nature of his work the pharmacist becomes a savant, and the particular object of his studies ranks with the general progress of sciences.

G. Planchon

THE HISTORY OF PHARMACY IN RELATION TO THE SCIENCES.

This chapter opens with a reference to the inhabitants of the Orient at a remote period. China has the honour of first place. The study of drugs there can be traced by documents to the eighteenth century preceding the Christian era, but it was during the reign of the Emperor Shennung, who died in 2697 B.C., that the series of treatises on materia medica, known as "Pentsao," was commenced, which work was condensed and resumed by Li-Shi-Chen, in the second half of the sixteenth century. This revised work is really the "Pentsao-Kang-Mu," but is known as the classical "Pentsao." Japan was the only foreign country that at all adopted Chinese medical ways. This began in the fifth century, and the emancipation is probably now almost complete owing to the progress of science in Japan.

M. Planchon next treats of India, giving interesting details of the "Samhita" of Charaka and the "Ayour-Veda" of Sousrouta, which treat of old Indian remedies, the former dating from the first century and the latter from a still earlier period. There was possibly some slight connection between Chinese and Indian methods of preparing drugs, but our fellow-subjects in the East seem to have had the additional benefit of magic and things of that kind with their drugs. Egypt has a history of medicaments not less ancient and interesting than its competitors of ancient civilisation in the Far East. The Chaldeans did not altogether despise drugs, but had a great fancy for amulets and magic. The Hebrews were also very abstemious in the use of drugs, but after their return from captivity the influence of Greek science and drugs made itself felt. The Persians were not averse to drugs, but religion dominated therapeutics. Greek and Roman philosophers had a marked influence on medicine and pharmacology through Hippocrates and his successors in Greece, when the true scientific method was first applied to medicine, but in Rome in its early days the healing-art was in the hands of slaves. With the glory of the Roman Empire came such masters of medicine as Galen and Oribasius. The Nestorians and Arabs also call for note, but their interest does not compare with that of the School of Salerne in Naples, the Montpellier School founded by the Jews and Arabs, and finally, in the thirteenth century, transformed into a school that was almost exclusively devoted to the study of medicine. All these schools are admirably treated, and a study of the alchemists and the pharmacy of the Renaissance and modern times completes the section.

The Pharmaceutical Profession.

The works of Hippocrates lead Professor Planchon to suppose that pharmacists of some sort existed in Greece in his time. Planchon remarks:—" As a matter of fact, the Greeks seem to have been in the habit of going to places for a purgative dose, very much in the same way that one can go to an English pharmacy of the present day." [Note the quiet humour with which he locates the modern inquirer.—Ed.] The first pharmaceutical legislation known was in the time of the Nestorians. They separated pharmacy from medicine, and a sort of official Pharmacopœia was introduced. The first book of formulæ known, under the title of "Krabadin," was published in the ninth century by Sabor ebn Sabel, director of the school at Dsondizabour. At that time precautions were taken to prevent adulteration, as well as the sale of drugs at too high prices. There also existed then army-pharmacies, for mention is made of General Afschin inspecting the pharmacies of his armies and assuring himself that the stock of drugs, &c., was complete.

The organisation of Guilds in Europe began in the thirteenth century, and then a curious oath had to be sworn to by apothecaries, which commenced—" To avoid suspicion, to merit the protection of God, for the just love of one's neighbour, the party interested undertakes, with his hand on the Gospels, to observe the obligations incidental to his profession." The oath included an undertaking not to adulterate or change drugs prescribed, and not to charge fancy prices for medicaments. The pharmaceutical Guild at Paris assisted in emancipating the trade from the grocers and the charlatans, but gradually a set of "privileged apothecaries" grew up who enjoyed certain advantages under patent from royalty, and antagonism arose between them and the apothecaries of the Guild, but this was finally arranged by the Law of Germinal, Year XI. This brings us to the question of

Pharmaceutical Legislation.

In France the pharmacien must have his diploma in order to establish himself in business; he can only own one pharmacy, and must also manage it himself. A poison-cupboard is obligatory, as well as a prescription-book; the latter must be kept for at least twenty years, and must be shown to the authorities whenever required. Poisons can only be delivered against a doctor's prescription, medicines must be prepared according to the legal formulæ, and any preparation not complying with this condition is reputed a secret remedy, and cannot legally be sold. Professor Planchon says this provision is increasingly neglected. He gives interesting particulars regarding the French official Pharmacopœias. The first of these to have the seal of authority was published by Valérius Cordus in 1535. It was issued by order of the Nuremberg Senate, and its use was imposed on pharmacists. Amongst others that followed, which, without being obligatory, were held as authorities, were the Pharmacopœa Augustana (1601), the Dispensatorium of Jean de Renou (1608), the Pharmacopœa Medico-Chymica of Schrœder (1641), the Pharmacopée Royale Galénique et Chimique de Moise Charras (1676) and the Codex Parisienis of 1638.

The principal towns of France had their special Pharmacopœias; Lille, 1640, and Toulouse, 1695, were amongst the principal of these. At Paris, by a decision of Parliament, the doctors were commissioned to prepare a Dispensaire, containing the "simple and compound medicaments which the apothecaries must keep in their shops." But it took forty-eight years to complete the work (1638); after that new editions appeared in 1645, 1732, 1748, and 1758. This Pharmacopœia came into general use for France in 1818 only, and was first published in Latin, but afterwards (1866 and 1884) in French. A new edition is now in course of preparation.

It is now nearly two hundred years since the budding apothecary ceased to obtain practically his entire instruction in his calling as an apprentice in the shop. Early in the last century the Guild of Apothecaries desired to organise the teaching of their calling themselves, instead of sending their pupils to the Faculty of Medicine, and from 1705 to 1723 lectures on chemistry, &c., were given by distinguished masters, such as Rouvière, Geoffroy, and Boulduc, under the authority of the Guild.

Towards 1763 the Paris Faculty of Medicine successfully opposed a scheme for teaching botany and natural history at the Apothecaries' Garden. Things went on in this way for some years longer until the formation of the College of Pharmacy, at the rue de l'Arbalète, Paris, which marks the commencement of organised pharmaceutical education in France, the system being on much the same lines as those followed at the Faculties of Medicine. Vauquelin was the principal mover in the matter, and he arranged for lectures on chemistry, botany, natural history, and pharmacy. Other subjects soon followed and practical laboratory-work was added.

The result of the higher standard of teaching in France has been the same as in Great Britain and elsewhere—namely, that whereas, in years gone by, the apprenticeship was considered the most important part of a pharmacist's training, the scholastic part has gradually taken first place. As a means of passing their examinations. Professor Planchon expresses the opinion that the new degree of doctor of pharmacy, though purely honorary, will be sought after, and will help to maintain the studies at the various schools of pharmacy as it requires personal scientific research on the part of the candidate. He then reviews the

Practice of Pharmacy in Various Countries.

He reminds us that China is the only country in the world where the sale of drugs and medicines is a trade open to everyone. Japan, after following so long in China's wake, has now adopted European methods in things pharmaceutical. Professor Planchon seems to be of opinion that though the pharmacy-laws of the United States have been greatly improved of late years, they are still not always rigorously enforced. Of Great Britain he says:—" The English are enemies of preventive and restrictive measures. If they have submitted, for the practice of pharmacy, to qualifications which inspire the confidence of the public in them, they have always a dislike to submit their pharmacies to regular inspection. The practitioner is responsible to the law for his faults, but no protective measure against the chance of accident hinders his action." Professor Planchon probably wrote this before the Poison Regulations were adopted last year. He contrasts with the English method the system prevailing in other countries of Northern Europe, such as Germany, the Scandinavian States, and Russia, explaining each method. In the Scandinavian countries and Russia the systems are pretty much the same as in Germany. In Roumania, Bulgaria, Servia, and Greece, pharmacies are also under a somewhat rigorous control, while Switzerland has given up the *régime* of a limited number of pharmacies and allows anyone with the requisite diploma to open a shop. In Italy a similar state of things exists, a student being able to obtain the degree of doctor after taking his pharmacists' diploma, by working for an additional twelve months in the laboratories of pharmacy and toxicology. In Holland, Belgium, and Spain the systems do not differ very materially from the French. The same applies to Turkey (since 1862), although in the pharmacies owned there by foreigners of various nationalities the regulations are by no means closely followed. Reference is also made to Mexico and some of the South American States. Professor Planchon adds:—"Prescriptions of a scientific order are much more marked in French and Spanish Pharmacopœias than in those of certain other countries. However, all these works tend to a uniformity; the logical idea that a Codex should be a practical work, easy to consult, is generally accepted, and alphabetical order in such works has become the rule everywhere. What is more important is the common desire in the various Pharmacopœias to give the same strength to preparations of similar substances. It is improbable that it will ever be possible to have an International Pharmacopœia that can serve for all the preparations of every country, but one may hope that as communication between countries increases, identical formulæ for particularly potent medicaments will be agreed to. This is the idea expressed by the International Congresses of recent years, and its near realisation seems possible."

New Books.

Abbott, H. G. *Modern Photography: a Handbook for the Amateur.* Illus. 12mo. 5*s*. (Chicago.)

American Annual of Photography for 1900. 9 × 5¾. Pp. 370. 3*s*. (Dawbarn.)

Archbutt, L., and Deeley, R. M. *Lubrication and Lubricants.* 8¾ × 5½. Pp. 476. 21*s*. (Griffin.)

Broadbent, Sir W. H. *Heart-disease.* Third edition. 8¾ × 5½. Pp. 434. 12*s*. 6*d*. net. (Baillière.)

Brown, T. *Complete Modern Farrier.* 14 Plates. 31st ed. 8⅞ × 5½. Pp. 776. 6*s*. 6*d*. net. (Simpkin.)

Charteris, F. J. *Practice of Medicine.* Eighth edition. Supervised by Professor Stockman. Crown 8vo. 10*s*. (Churchill.)

Coakley, C. G. *Manual of Diseases of Nose and Throat.* 92 engravings, 2 plates. 8 × 5. Pp. 526. 12*s*. net. (Kimpton.)

Cooper, A. J. *Elementary Practical Chemistry.* 44 Illus. 7½ × 4⅞. Pp. 94. 2*s*. (Whittaker.)

Creighton, C. *Glycogen of Snails and Slugs: Microscopic Research of Glycogen*, Part 2. 8vo. 7*s*. 6*d*. net. (Black.)

Dawson, Maria. *Nitragin and the Nodules of Leguminous Plants.* Phil. Trans., B, vol. 192, 1899. Pp. 28. 1*s*. 6*d*. (Dulau.)

Hedley, W. S. *Therapeutic Electricity and Muscle-testing.* Royal 8vo. 8*s*. 6*d*. (Churchill.)

Huxley, T. H. *Scientific Memoirs.* Edited by Sir Michael Foster and E. Ray Lankester. Vol. 2. 10⅝ × 6¾. Pp. 624. 30*s*. net. (Macmillan.)

Lambert, F. C. *Perfect Negative: Chapters on After-treatment of the Negative.* 7¼ × 4⅞. Pp. 136. 1*s*. net. (Hazell.)

Lewis, W. J. *Treatise on Crystallography.* 9⅛ × 5¾. Pp. 692. 14*s*. net. (C. J. Clay.)

Mayhew's Illustrated Horse-doctor. New ed., enl. 400 Illus. 8⅝ × 5⅜. Pp. 648. 12*s*. 6*d*. (Abbott Jones.)

Murrell, W. *Aids to Materia Medica.* Part 3. 6½ × 4⅛. Pp. 94. 2*s*. (Baillière.)

Newth, G. S. *Chemical Lecture Experiments, Non-metallic Elements.* New edition. 7⅞ × 5¼. Pp. 352. 6*s*. (Longmans.)

Richmond, H. D. *Dairy Chemistry: Practical Handbook.* 8¾ × 5⅝. Pp. 404. 16*s*. (Griffin.)

Riddell, J. S. *A Manual of Ambulance.* 170 Illus. 4th ed. 7⅞ × 5¼. Pp. 230. 4*s*. (Griffin.)

Sedgwick, W. *The Advance of Knowledge.* Crown 8vo. Pp. xii + 227. 6*s*. (George Allen.)

Thoinot, L. H., and Masselin, E. J. *Outlines of Bacteriology: Practical Handbook for Students on Basis of Précis de Microbie.* 6½ × 4⅛. Pp. 330. Roan. 10*s*. 6*d*. (Griffin.)

Walker, Jane H. *Open-air Treatment of Consumption.* Royal 8vo. 1*s*. (Churchill.)

Walsham, H. *Stereoscopic Skiagraphy.* 4to. 1*s*. (Churchill.)

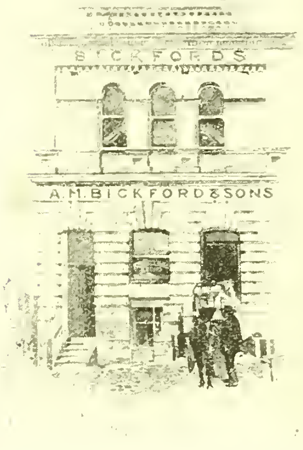
A Technical Lecture in Paris.

The Conservatoire des Arts et Métiers, at Paris, is a sort of French Birkbeck Institute, and among its most numerously-attended lectures are those on "General Chemistry" by Professor Jungfleisch, of the Paris School of Pharmacy. I attended his opening lecture for the winter session. It was on "Organic Chemistry," and was announced to commence at 9. I arrived three minutes late, and found the professor well into his subject and all the front seats occupied. There were probably 150 persons present, and more were arriving. In front of me sat two working-lads of 20 in long black blouses, lower down was a schoolboy in his blue uniform, behind a youth with a young lady; but only three or four ladies were visible in all. There was a sprinkling of older men, but three-fourths of the audience were young men of the superior-mechanic class. Law and order were represented by a gendarme of the Municipal Guard, who had the doubtful privilege of remaining covered in a somewhat overheated atmosphere. His stern rebuke when I omitted to remove my hat immediately on entering drew my attention to his own shako. Professor Jungfleisch was in evening-dress, and wore the ribbon of the Legion of Honour. Square-built, rather stout, with close-cropped iron-grey hair and moustache, he looked in excellent health. In front of him was a long array of chemical apparatus, and behind him blackboards. His articulation was clear, but his delivery rapid, and an unpractised Englishman would perhaps find it difficult to follow his explanations, simple and explicit though they were. Thoroughly "in touch" with his audience, he was apologising for the absolute necessity of a certain amount of theory and classification to enable them to comprehend the vast number of substances included in organic chemistry. He insisted on its importance in manufactures, and promised to cut the theoretical part as short as possible. He dealt rapidly with carbon, hydrogen, oxygen, and nitrogen; then mentioned briefly sulphur, phosphorus, and the halogens, and explained that it was because such a limited number of elements form such an immense number of compounds that analysis could not be too precise. This led to a practical demonstration of the use of various apparatus, and the methods of estimating carbon and hydrogen were shown, the "preparator" who assisted the professor being kept uncommonly busy for about twenty minutes. M. Jungfleisch lectured from a manuscript, but this was evidently more for the sake of order than through any lack of fluency, for when giving his extemporised explanations his flow of language was as rapid and clear as ever. On the blackboard the composition of formic acid was fully explained in white and red chalks. A larger blackboard, which occupied the whole of the back of the platform, was used to explain the nomenclature of chemistry. At 10 P.M. exactly the lecture closed, and the audience, after expressing their appreciation by brief applause, quickly disappeared. I saw M. Jungfleisch in his laboratory afterwards. "I have professed here for several years now," he said; "four or five, if I remember rightly. Yes, they are nearly all young fellows employed in chemical-works, not so much in Paris as in the outskirts (Aubervilliers, Pantin, &c.); and a very interesting and deserving set they are. They leave work at 6 or 7 P.M., and can only make a hasty meal after their twelve-hours' day before the class, and possibly don't arrive home much before midnight." "And those who sit in the small enclosed portion in front, close by the platform?" "They are mostly competitors for the prizes offered by well-wishers of the institution. But we give cards to anyone who asks for them. Our object is to give real workers a seat where they can see and hear everything. "And their object?" "Is to fit themselves to become foremen, and frequently education for its own sake. One very industrious young fellow, I found, was clerk in a lace-house. 'What is your object in studying chemistry?' I asked him. 'It amuses me,' was his reply. But, as I said, most are genuine workingmen, and, if my pupils are any criterion, the *petit bourgeois* may look to see himself outstripped in chemical knowledge by the workmen in a very near future unless he wakes up."

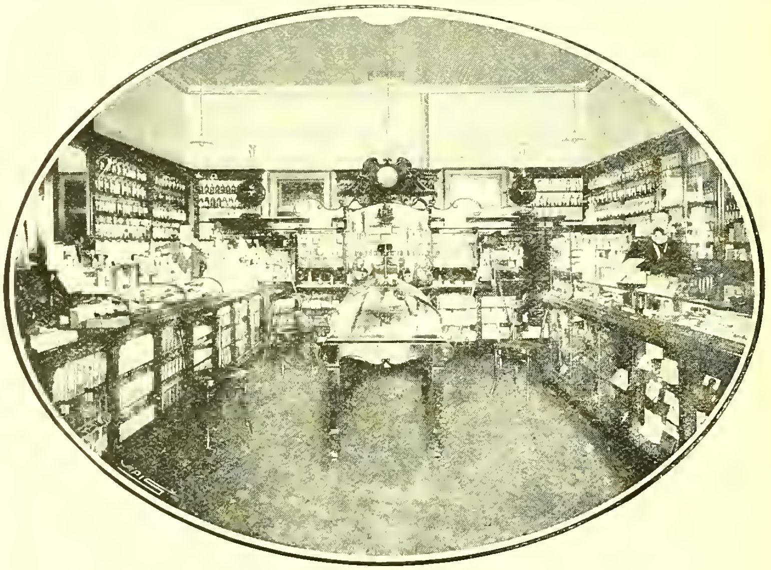
Germany possesses 26,689 doctors, or an increase of 932 (equal to 3·6 per cent.) since 1898. Prussia has 16,103, being an increase of 649 last year.

Colonial Pharmacies.

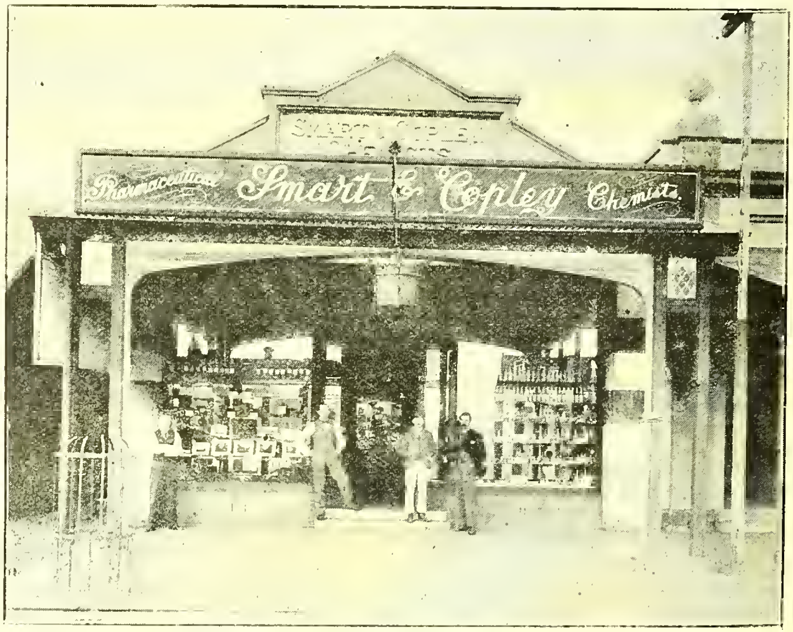
If there is one thing characteristic of pharmacies in the British Colonies, it is that they are uncommonly like those at home, but brighter and more up to date than ours are—perhaps because they begin where their *confrères* at home leave off. The few examples which we give to-day show what the colonies can do. The first and small engraving depicts Messrs. A. M. Bickford & Sons' wholesale branch in Perth, West Australia, whose principal establishment is in Currie Street, Adelaide, South Australia. This firm was founded sixty years ago by Mr. Wm. Bickford, who had emigrated from Plymouth. His first pharmacy was in Hindley Street, but he had soon to take larger premises, and when he died, in 1860, the business had grown to considerable importance. The present heads of the firm, Messrs. William and Harry Bickford, were taken into partnership in 1864, and under their energetic management the business has become one of the leading wholesale houses in the Antipodes, the premises in Currie Street, Adelaide, containing well-equipped laboratories, offices, showrooms, and stock and packing floors. The firm do a big cordial and beverage business, for which there are separate premises.



A PERTH (W.A.) DRUG-WAREHOUSE.



INTERIOR OF A BULAWAYO PHARMACY.



EXTERIOR VIEW.

The unhappy interest which everybody in the British Empire has in the present conflict in Cape Colony and Natal has diverted attention from that youthful but go-ahead town Bulawayo. It is practically cut off from the south, and supplies go to it *viâ* Beira on the East Coast. The male population is depleted, most of the men having joined Colonel Plumer's force—doubtless the chemists are amongst them, though some may be staying in as town guard. The last letter we received (January 1) was from Mr. Dawn Copley, who wrote on November 10, 1899, giving us a list of the members of the Pharmaceutical Society of Rhodesia, each of whom gets THE CHEMIST AND DRUGGIST weekly. They are in Salisbury, Umtali, Gwelo, and Bulawayo. [On Monday of this week we had another, dated November 24.] We also received from Mr. Copley's firm (Messrs. Smart & Copley) photographs of the new pharmacy which they have opened in Bulawayo, and we give exterior and interior views, from which others in the trade may be able to pick up some novel points. The frontage is a typical South African one, and the shady sidewalk keeps it nice and cool. The fine hand-wrought metal lamp is a good feature. The interior fittings were executed by Messrs. S. Howlett & Son.

Messrs. Mager & Marsh, chemists, Queenstown, Cape Colony, when they wrote to us on December 2, 1899, sending a photograph of the interior of their pharmacy, felt unpleasantly near the scene of hostilities, but matters do not look so bad now. No class of traders, we may say, has fared worse in this war than chemists. After the trouble is over many of them will need to begin their business-lives over again. Messrs Mager & Marsh's pharmacy is typical of several which have been left in the Transvaal to take care of themselves. It is a spacious shop, 40 feet from back to front, with a frontage of 28 feet. It is fitted up in good style; the extensive counter-space and room in front of the counter give good opportunity for display. Mr. William Kelk Mager, the head of the firm, holds the English qualification, and has acted as an examiner on the Board of Pharmacy. They speak of drug-shops or pharmacies in South Africa as drug-stores, and this rather helps business.

Pharmacy Interior, Queenstown, Cape Colony.

Trade with Nicaragua.

Hints to Firms in England.

A CORRESPONDENT in Nicaragua, writing to us recently, gave the following interesting particulars for the benefit of English houses. Everybody here, he remarks, is convinced of the superiority of English drugs, and of the fact that many of them, such as opium and its preparations, mercurials, acetanilide, &c., can be obtained very much cheaper from English houses than from firms in the United States. In fact, nearly all drugs from England are cheaper than those imported from the States. Traders in Nicaragua, however, are handicapped to some extent by the methods of packing in vogue with English firms, as well as by the high price which they charge for making up drugs and preparations into small vials. All the current tinctures, extracts, and powders, such as arnica, ipecac, rhubarb, iodine, paregoric, laudanum, and nux vomica, are sent to Nicaragua by American houses in 1-oz. and 2-oz. vials, neatly made up in cartoons containing one dozen. In cases where traders order one gross of a certain kind of preparation, these firms are in the habit of sending them in well-fitting original cases, for which no charge is made. As in the case of the smaller British colonies and dependencies, drugs and chemicals are imported into Nicaragua in small quantities, to permit of ready handling and to facilitate dispensing and up-country trading. Especially is this requisite in regard to potent medicines, for few would care to trust dispensers in a country where aq. dest. is an unknown quantity, where grains and grammes are measured by guess-work, and where not one out of ten of those who pose as pharmacists know what H_2O means. Further, English wholesale houses charge too much for making up drugs into small packages. One British firm certainly does a large trade in Nicaragua in Epsom salts, senna, spices, oils, &c., to a large extent because the articles are put up in neat and small packages; and for this reason good business is done notwithstanding the fact that traders know that they can get a better quality of goods elsewhere.

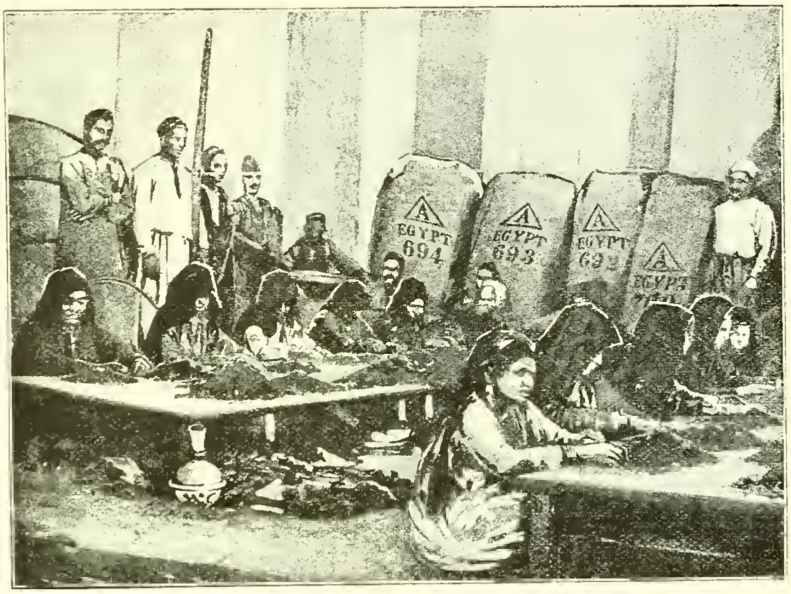
While to some extent the dispensing of medicines is extremely lax, it would appear that a certain amount of care is taken to prevent the ignorant use of potent drugs. Our correspondent, who is also a large planter, keeps, as he describes it, a plantation-store. He possesses a knowledge of chemistry and is able to dispense, although he has no qualification, but he leaves all that to his dispenser or clerk, who at the same time is responsible for a domestic trade in beans, rice, lard, and calico, which the store holds in stock. The dangerous drugs are usually kept by the trader or the chemist in his "trunk or safe," presumably under lock and key, except those which are imported from other countries and put up in original packages ready for sale. Of English patent and proprietary medicines, the most favoured by the Nicaragua public are Eno's fruit-salt, Dr. Collis Browne's chlorodyne, Holloway's pills, and "some styles of cherry tooth-paste." This, as our correspondent remarks, is a very poor show out of the innumerable articles of this character with which the English chemist deals. There is an opening in Central America for the sale of saccharin, rennet-tablets, malarial-fever remedies, and, above all, for "sparklets." The last-mentioned, if they are what he understands them to be from the description in THE CHEMIST AND DRUGGIST, should sell well. There is a soda-water manufactory on the coast in Nicaragua, which has a paramount privilege and monopoly, and even the importation of foreign aërated water *viâ* Bluefields is prohibited, so that the unfortunate inhabitants are forced to drink the "nasty stuff" which is made by those who hold the monopoly.

Referring to some remarks which we made a little while back on certain highly-prized South African drugs, which have proved of little relative value in England, the writer remarks that the observations apply equally to some of the drugs largely in use in Central America. This is especially so in the case of those containing volatile oils, due, no doubt, to the loss by evaporation during transport and storage. Another instance is that of red smilax China, which, while it works wonders as a blood-remedy, and has even cured light cases of leprosy, in that tropical country, appears to have little if any effect when used in Europe. These remarks also apply to many other plants found in Nicaragua. Referring to belladonna plasters, our correspondent is of opinion that $\frac{1}{2}$ per cent. of atropine is too much for plasters in some instances, and thinks that there should certainly be two strengths—$\frac{1}{2}$ and $\frac{1}{4}$ per cent.—and gives an instance where a belladonna plaster, put upon the temples for headache, came very near to injuring the sight of the man who used it.

We understand the political and financial condition of this little republic appears always to be in a very desperate case. There is a premium on gold for silver, and a premium on silver for paper, the exchange for gold being 300 per cent. in paper and 230 per cent. in silver.

Not Made in Germany.—The German soap-makers do not like the way the Sunlight Soap Company advertise their wares in connection with their factory at Mannheim-on-the-Rhine. The Mannheim Court has, as a consequence of action by the soap-makers, just granted an order restraining the company under heavy penalties from using printed wrappers implying that the soap is made in Germany—the soap being, they say, brought from Liverpool, and only pressed, packed, and labelled at the Mannheim works. The labels used in future are to indicate that the soap is a foreign and not a German-made article.

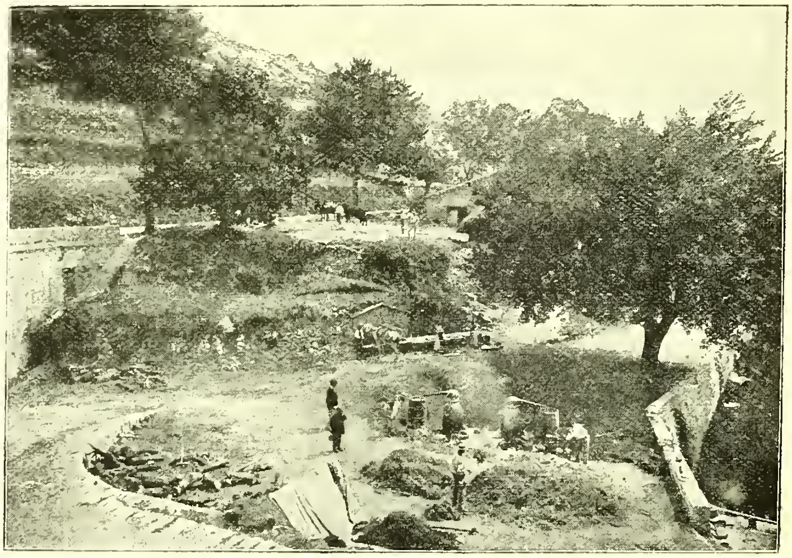
ALEXANDRIAN SENNA.



Picking Senna in a Cairo Warehouse.

THIS is a picture of senna-picking in Cairo, for the original of which we are indebted to Messrs. Finsler & Wheeler, Great Tower Street, E.C.—a firm whose name is closely identified with the senna-trade. Mahdism has rather interfered with the senna-trade, although not so much as it did with the gum-trade, because senna grows most extensively near the Red Sea. The leaf as it is plucked (sometimes mixed with foreign leaves) is taken to Cairo, amongst other places, where the merchants have it picked and sorted by women. This is done with a great deal of care, for Alexandrian senna is better graded before it is exported from Egypt than any other drug which comes into the English market. Much of the Alexandrian senna is bruised before it reaches London. Perhaps not all of this kind is from *Cassia acutifolia*; indeed, it is an open secret that we have been getting *Cassia obovata* in this form for years, and the parcel of whole leaf which Professor Greenish recently spotted is supposed to have been a sudden freak of righteousness. Still, Alexandrian senna is, taking it for all in all, one of the least-adulterated drugs which come to our market.

ALPINE LAVENDER.



Distilling Lavender in the Alpes Maritimes.

THERE are few books which have been more talked of in the Chemical Society's rooms during this winter session than Gildemeister and Hoffmann's "Ætherischen Oele," which was published some months ago by Springer, of Berlin, and duly reviewed in these pages. The work is characterised by its excellent commercial, geographical, and historical information, besides its sound scientific data—a quality which is entirely due to the fact that Messrs. Schimmel & Co., of Leipsic, under whose auspices it is published, placed their whole business resources at the disposal of the authors. There are some pretty illustrations in the book, and we were so pleased with the one given here that we asked Messrs. Schimmel to lend us the photograph—a request which they courteously complied with. It is an Alpine scene about 5,000 feet above the sea-level, in the neighbourhood of Escragnolles, which is thirty miles from Grasse on the road to Paris. There, towards the end of September in each year, lavender-growers begin to distil oil of lavender, this region growing lavender which rivals the Mitcham flowers in sweetness. The stills are perambulatory, and are taken close to the fields, and beside some cool spring which affords plenty of water for the condensing-barrels. The whole operation is depicted in the foreground of the picture. It is well to note that all French oil of lavender does not come from the Alps, and, as far as we are aware, none grows on Mont Blanc, although there are commercial varieties of the oil which are so termed. Although in chemical composition the French oil differs very distinctly from Mitcham oil of lavender, the odours are remarkably akin, and the finest redistilled French oils are almost indistinguishable in aroma from the new English.

Legal Reports.

High Court Case.

AN APPEAL ALLOWED.

BEFORE a Divisional Court of Queen's Bench on January 22, Mr. Bennett, a sweetstuff-dealer at Teddington, appealed against convictions by the local Justices for selling a certain article of food called "Barrett's Aniseed Chewing Chum," which was said to be mixed with 8·3 per cent. of paraffin-wax, so as to render the article injurious to health, and was not of the nature and substance demanded. After hearing arguments on both sides,

Mr. Justice Channell was of opinion that on the facts stated the appeal must be allowed and the conviction quashed, and Mr. Justice Bucknill concurred.

Sale of Food and Drugs Acts.

SWEET SPIRIT OF NITRE.

AT Boston Police Court on January 12, Thomas Bar Joans Booker, chemist and druggist, Mainridge, Boston, was fined 10*s.* and costs for selling sweet spirit of nitre 50 per cent below the required standard.

AT North London Police Court on January 19, William Wells, Chatsworth Road, Hackney, was summoned for selling sweet spirit of nitre 25 per cent. deficient in ethyl nitrite. The defendant admitted the correctness of the analysis, but said he had purchased the bulk of good quality and strength, and sold it as such.

Mr. Fordham (Magistrate): And I suppose you will say that its exposure to light and heat and the volume of air-space between the top of the bottle and the article itself caused the spirit to decrease to the extent mentioned?

The Defendant: That is so.

Mr. Fordham: But you, as a chemist, ought to make allowances for all the means by which the virtue of this drug diminishes. You should keep it in smaller bottles, and have your supply more frequently.

The Defendant: I have tried as hard as possible to take care of it. I had only that lot in three weeks before the inspector came. But the stopper might have been a little loose.

A penalty of 20*s.* and 12*s.* 6*d.* costs was imposed.

PAREGORIC SINE OPIO.

THOMAS MILLAY, chemist and druggist, of High Street, Homerton [No such name on the chemists' and druggists' register.—ED.], was summoned by the Hackney Vestry before Mr. E. S. Fordham, at the North London Police Court, on January 19, for selling paregoric which was not prepared with tincture of opium, as prescribed by the British Pharmacopœia The defendant, who conducted his own case, pleaded not guilty. The purchase was proved, and the Inspector stated that when defendant learnt that it was for analysis he took up the bottle and wrote under the label "Sine opium." The Inspector objected to this, and the defendant took the bottle away and brought back another one. This had been analysed, and the certificate of Mr. Leo. Taylor (produced) showed that it was not according to the British Pharmacopœia.

Mr. Fordham (to Inspector): But let me understand. You say that a woman made a purchase for you, and that the defendant wrote something on the bottle after he was told that it had been purchased for the purpose of analysis. Is this the bottle?

The Inspector: No; I think not.

Mr. Fordham: Now how can we go on?

The Witness: But this is paregoric from his shop.

Mr. Fordham: Yes; "sine opium," and written, I suppose, before he handed you the bottle. You cannot proceed on this. This is not the article you purchased for analysis.

The Inspector: He took that to the back of the shop.

Mr. Fordham: And you did not see what he did with it?

The Inspector: No, I did not.

Mr. Fordham: The case must fail. You should have stuck to the original bottle.

Mr. Tiddeman (for the Vestry): Unfortunately that appears to be so. The second supply, although no doubt filled from the same stock-bottle, is not the exact thing purchased for analysis, and is in a bottle declaring its value, quality and substance. Although, by the way, paregoric was asked for, and not this "sine opium."

Mr. Fordham: You cannot go on with this summons, because it does not refer to the article purchased for analysis.

Spirits Acts.

SELLING METHYLATED SPIRIT WITHOUT A LICENCE.

AT the Isle of Wight Sessions held at Newport on January 20, Mr. Wm. Herbert Hewett, chemist, High Street, Cowes, was summoned for selling methylated spirit without a licence. The Supervisor said defendant had held a licence for twenty years, and the usual notices were sent him in October and November. Defendant renewed his licence on December 6, but in the meantime—November 27—an Excise officer had visited defendant's establishment and made a purchase of methylated spirit. Mr. Hewett did not deny the offence, but pleaded the non-taking up of the licence was an oversight. A fine of 6*d.* and 16*s.* costs was inflicted.

County Court Case.

DISPUTE ABOUT A STALL.

AT the Clerkenwell County Court on January 18, Janet Murray Eddie, a builder, sued Rosbach Springs (Limited), 13 Regent Street, S.W., to recover 3*l.* 14*s.*, for fitting a stand at the Brewers' Exhibition at the Agricultural Hall. Mr. Popham, who represented the plaintiff, said the defendants seemed to have been under the impression that they had purchased the stand right out. Defendants' representative said that was his impression. After hearing evidence the Judge said there was nothing in the arrangement to show that the defendants were to become the owners of the stand, and gave judgment for the plaintiff.

Court of Session Cases.

A COMPANY DISPUTE.

THE Eglinton Chemical Company has raised actions in the Court of Session, Edinburgh, against Mr. Donald, the Firhill Limestone & Whiting Company (Limited), and the Eglinton Silica Brick Company (Limited), to recover 1,666*l.* 5*s.* 11*d.*, 555*l.* 12*s.* 7*d.*, and 924*l.* 0*s.* 3*d.*, from the defenders respectively. Pursuers say that while Donald was managing-director of their Company he became indebted to the Company to the amount sued for. The sums claimed from the Limstone and Brick Companies represent balances on transactions for limestone and other materials which the Eglinton Chemical Company supplied to them. The defenders deny these allegations.

REID & DONALD'S BUSINESS.

ON Tuesday, January 23, Lord Low had enrolled for debate, on the legal points involved, the action James Jameson Donald, chemist and druggist, Perth, against his brother, John Martin Donald, aërated-water manufacturer there, and against the trustees of the late David Donald, chemist and druggist, Perth, in respect to the will of the last named, particulars of which have been published in the *C. & D.* When the case was called counsel for defender asked his Lordship to allow it to drop. Great efforts, he said, were being made to have the case settled. His Lordship agreed.

THE BRITISH EMPIRE BOUQUET comes to us as we are closing for press. It is a perfume made by Messrs. Ayrton & Saunders, Liverpool, delightful in odour, patriotic in get-up, and a copy of "The Absent-Minded Beggar" goes with each bottle. There are eight sizes of it (9*s.* to 60*s.* per dozen), to suit the length of the purse and strength of the imperialism of each class of buyers. An appropriate showcard is given to retailers.

New Companies & Company News.

Jno. Parker (Limited).—Capital 2,000*l*., in 1*l*. shares. Objects To manufacture and deal in mineral and aërated waters.

Brighouse Photographic Company (Limited).—Capital 1,000*l*., in 1*l*. shares. Objects: To carry on the business of photographers, photographic chemists, &c. Registered office, 2 Victoria Street, Brighouse, Yorks.

Young's Botanic Brewery, Bradford (Limited).—Capital 3,000*l*., in 1*l*. shares. Objects: To carry on the business of manufacturers of, and dealers in, herb and botanic beer, aërated and mineral waters, essences chemicals, and cordials. First directors: E. H. Cowlishaw and W. S. French. Registered office, Botanic Brewery, Thackley, Bradford, Yorkshire.

Anko Speciality Company (Limited).—Capital 2,000*l*., in 1*l*. shares. Objects: To carry on the business of chemists, druggists, drysalters, oil and colour men, makers of electrical, photographic, surgical, scientific and domestic apparatus and materials, &c. The subscribers are:—F. H. Pepper, The Oaks, Handsworth Wood, solicitor; H. R. Winterton, 34 Waterloo Street, Birmingham, solicitor; F. H. McMullen, 58 Fulham Road, Sparkhill, Birmingham, clerk; H. Walker, 126 Churchill Road, Handsworth, Birmingham, clerk; J. E. Smith, 46 Edward Street Parade, Birmingham, clerk; G. Downes, 34 Waterloo Street, Birmingham, clerk; and J. S. Harper, 562 Moseley Road, Birmingham, clerk. Registered without articles of association. Registered office, 8 George Street, Birmingham.

Maypole Company (Limited).—Mr. Arthur H. Deakin, late managing director, informs us that he has resigned his position with the recently reconstructed company.

Price's Patent Candle Company.—The profits for 1899 amount to 99,400*l*., to which has to be added 6,136*l*., undivided profit from 1898, making together about 105,500*l*. Deducting the dividend of 18*s*. per share, amounting to 33,750*l*., paid in September, 1899, about 71,800*l*. will be available for disposition, and the directors recommend that 12,500*l*. be written off for depreciation, 37,500*l*. be applied in paying a dividend of 1*l*. per share, 15,000*l*. be added to the reserve fund and the remainder, about 6,800*l*., be carried forward.

Triticine (Limited).—At the Wakefield County Court last week, a sitting was held for the public investigation of the affairs of this company, and the public examination of the debtors and officers. Mr. Robert George Hunter, who was appointed a director when the company was formed, was unable to say whether any promotion-money had been paid. He only learned that a sum of money and certain shares had been paid and transferred to certain firms from the report of the Official Receiver. He believed that 30,000*l*. of shares had been applied for, but he did not know that they were never allotted. The Examination was subsequently adjourned.

Eglinton Chemical Company.—The Judges of the First Division of the Court of Session, Edinburgh, on January 19 granted a supervision order for the winding-up of this company, whose headquarters are in Glasgow. The petition asking that the order be granted was presented by Mr. W. J. A. Donald, who had formerly been the managing director of the company, and he complained of the method by which the voluntary liquidation was being conducted, and of the promotion of another company to purchase its assets and carry on its business. The directors and liquidator said the steps had been taken with the full knowledge and concurrence of the shareholders. The Lord President said the Court did not intend to reflect upon anyone, but seeing there was a state of things of a somewhat exceptional character it might be well that the parties should have recourse to a Judge for advice.

Camwal (Limited).—The *Financial News* is not pleased apparently with the conversion of Camwal, and considers the 200,000*l*. capital to be excessive. Although our contemporary does not overlook the fact that the whole of this capital is not called up, it goes on to say:—

> The only reasonable argument for such a scale of capitalisation must be looked for in expected developments. But are these possible? In the past the old company supplied its wares only to chemists who were shareholders, and to hospitals. Trade rivals have not been slow in taking advantage of this fact, and have so covered the ground that there is now little room for extension by the present company. It can hardly hope to recover the ground lost by its past exclusive policy, unless there is to be keen competition, and keen competition, with its small profits, is not likely to make dividends for an over-capitalised concern.

The *Statist*, on the other hand, wishes the new company well, and considers it sound.

Borax Consolidated (Limited).—The report of the directors for the year ended September 30 states that the profits aggregate 243,036*l*., which amount exceeds by nearly 50 per cent. the figures shown in the prospectus. After making various appropriations there remains a balance of 155,230*l*., out of which the dividend on the preference shares for the six months ended September 30 absorbs 22,000*l*., and from the residue the directors propose to pay a dividend of 25*s*. per share on the ordinary shares, 75,000*l*.; to place to general reserve 50,000*l*.; and to carry forward 8,230*l*. The advantages looked for from the amalgamation are, in the opinion of the directors, likely to be fully realised. The demand for borax and the various products manufactured by the company has been very good, and its works in England and abroad have been kept fully employed. The directors have acquired certain further properties, and for the purpose of providing the necessary funds, without unduly encroaching on the company's working capital, and pending the issue of further debenture stock, a temporary loan has been arranged.

Advertising Ideas.

Chemist Printer.

Mr. John H. Smith, pharmaceutical chemist, Newark, the proprietor of "Flyodoomo" fly-stickers, has issued a comprehensive retail price-list. The list covers the different departments and has been printed at Mr. Smith's own printing-works, to which it is distinctly a credit.

The Store Way.

In the advertisement of a drapery firm (with a drug department) in a big London daily newspaper the other day, we found two items of interest among the "bargains." These are: "Chemical food, 16-oz. bottle, *suitable for charitable purposes*, 6½*d*."; and "16-oz. bottles of pure cod-liver oil, *suitable for charitable purposes*, 10½*d*." The italics are ours.

Almanack.

We are in receipt of a further contribution in this particular kind of advertising medium. It comes from Mr. J. H. Watson, chemist, Westgate, Shipley, whose almanack is a useful and well-printed book, and contains a large assortment of well-executed advertisements of Mr. Watson's specialities. The local memoranda and postal information are supplemented by a useful table of local chronological events.

Not a Soda-fountaineer.

Mr. William C. Alpers, Sc.D., pharmacist, and formerly manager of the Merck Pharmacy, New York, has opened a pharmacy in New York City, at 45 and 47 West Thirty-first Street, near Broadway. Dr. Alpers's reputation as a writer on pharmaceutical and collateral subjects is not confined to the United States. Recently the University of New York has conferred on him the Sc.D. degree, in recognition of original research-work on plant-analysis. In opening his pharmacy Dr. Alpers issued an attractive booklet, setting forth the professional work he intends to carry out and the goods he will vend. In the course of this he says—

> We believe that the preparation of tinctures and extracts, on whose purity the physician's success depends, is too important a matter to allow it to be interfered with by the drawing of a glass of soda-water; we believe that the compounding of a prescription, that may be the agent of life or death, is too serious an act to be stopped or interrupted for the sale of cigars or perfumery; we believe that the vocation of relieving the sick is so noble and responsible a trust as to require a man's whole time, mind, and attention.

Our Town Traveller.

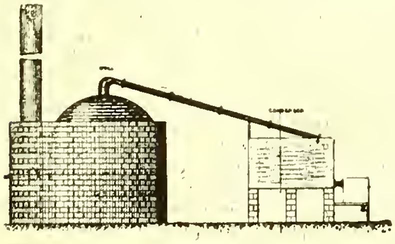
TAR AND DISINFECTANTS.

ONE morning last week Mr. R. J. Clarke, the manager of Messrs. Burt, Boulton & Haywood's antiseptics department, called at the office to take me down to the company's works at Silvertown (Prince Regent's Works), which he said would interest me. It was one of those semi-foggy wet days bordering on the Metropolitan yellow which makes

> All form and colour disappear
> Within the murky atmosphere.

It brightened before I started to walk round the grounds with Mr. Ferguson, the head chemist of the works. Before I go further I should say that I do not know any bigger tar-distillers in the world than this firm. They have been in the business at Silvertown the greater part of this century, and they have works in Belgium, France, and Spain, as well as Eling, doing the same sort of thing that they do in London. What is that business? Well, let me begin at the Thames. All up the river, from Margate to Oxford, there are gasworks which have tar to dispose of. Messrs. Burt, Boulton & Haywood (Limited) make it their business to contract with the gas companies for the removal of that tar, and they use a fleet of barges and steamers to convey the tar to their own dock at Silvertown. So also to towns round the coast go their steamers for the black fluid which *per se* is so abhorrent to view, but is rich in comfort and pleasure to mankind when it is fractionally distilled and submitted to chemical processes. From inland towns tank-trains also carry thousands of gallons of the stuff, and one of the first things that struck me as I began the perambulation of the grounds was the huge tanks for storing the tar — things like gasworks-gasometers they are. "How much is there in that one?" I asked Mr. Ferguson. "A quarter-million gallons," he said (adding its capacity in cubic feet, which eluded me—perhaps my thinking capacity goes in the other way). Well, it is the business of the company to separate the tar into its useful constituents. I will tell as concisely and well as I can how that is done.

This little engraving is a diagrammatic sketch of a tar-still. A battery of nineteen of these forms a short street. The capacity of each still is 2,500 gals. (14 tons), and each still has its own furnace. I walked down two of these streets last week. Some of the furnaces are stoked with coal, others consume producer-gas. The stills are worked in cycles of twenty-four hours. The only peculiarity about the stills which I need mention is that each is fitted with a Gabbett's mixer which permits continuous working for twenty-four hours and prevents formation of deposits and secondary decomposition of the still-contents. I describe this mixer later, as I think it is just the thing that is wanted on a small scale for emulsion-making and other pharmaceutical processes.



In tar-distillation the products are roughly grouped as (1) light oils, (2) heavy oils, and (3) pitch. In the initial distillation 1 and 2 are partially but not finally fractionated. The principal constituents of the oils are as follows, the temperature of distillation increasing as we go down the columns:—

Light.	*Heavy.*
Benzol	Phenol
Toluol	Cresol
Xylol	Other tar-acids
Cumol	Naphthalene
Pyridine	Chinoline-bases
Phenol	Phenanthrene
Cresol	Carbazol
	Anthracene, &c.

Supposing the still is charged at midnight, it is two or three hours before anything comes over; first there are light naphthas and water; then the light oils proper begin to come over, and by 3 in the afternoon I was in time to see anthracene oils collecting and cooling to a yellow buttery consistence. By this time steam is blown into the stills to help the direct heat of the furnaces to carry over the heavy distillates at between 550° and 750° F. As I have said, care is taken to initially fractionate as far as possible, and, strange to say, the still-workman can tell by the eye exactly when to change his receiver so as to get the greater part, say, of carbolic acid or anthracene in a fraction, and daily analyses in the laboratory check his work. The whole thing is done in the open air, and is a striking example of how delicate operations can be controlled even when tons of stuff are operated upon; but it is not at all difficult to see that there are mechanical minutiæ in the operation which are the outcome of years of invention—indeed, I believe there are several patents involved in what appears to be a rudimentary apparatus.

To get to the next stage in the distillation I had to walk through the carbolic-powder department, where the basis was stored by the waggon-load, with small hills of it outside; it is a pink powder which the company take from the associate works—the British Alizarine Company (Limited)—adjoining; a neutral by-product it is. Messrs. Burt, Boulton & Haywood's carbolic-powder plant is capable of turning out 20 tons of the powder per day. After this department I went through a house where they mould naphthalene into albo-carbon rods just as the pharmacist's assistant makes suppositories, or into disinfecting-cakes by hydraulic pressure; then through a still-house where gas-liquor was being treated, and into the naphthalene-separating house, which is one of the most ingenious chemical-factories I have ever been in. There is no artificial light or heat allowed in it, yet there were half-a-dozen centrifugal separators whizzing round at a terrific rate. Each separator, I found, was driven by its own water-motor fixed direct to the vertical shaft. Into these separators the naphthalene-deposits are placed, the heavy oils flow away, and the naphthalene gathers in a stone-hard coating on the sides of the apparatus. Men chisel it off, and it drops through the base into a sliding trough, whence it is mechanically carried into an immense shed next door. Much of it is sold in the rough grey-coloured state. In the next department that I visited they were making anti-fouling and antiseptic paints and coal-tar antiseptics. It is a sad reflection upon all text-books dealing with paints and varnishes that thousands of gallons of solvents and mediums for these branches of manufacture go out of these works yearly which do not figure in the formulæ, but help to make some very special varnishes and paints. I would have liked my visit to be devoted to this subject alone, but I fear I should have pried into secrets.

At last I came to the still-house, which was a centre of interest, for it is there that many of the special products for which the company are famed are produced. All around me was "plant" which I will not attempt to describe. Most of it has been designed and made on the premises (there is an extensive mechanics' workshop), and the casual visitor sees little except big stills, tall columns (condensers on the Coffey principle), and covered receivers. There is also little to smell, so efficiently is the work done. In one apparatus high-flash naphtha was coming over (flash-point 120° F.), and beside it carbolic oils were fractionating. After crossing the Dagenham Ditch, an ancient relic which flows through the grounds to the river, I came to another still-house for lighter naphthas (benzol, &c.). A still takes 2,400 gals. at a time. First, the naphtha is washed with weak caustic-soda solution, which removes the tar-acids (carbolic, cresylic, &c.); then with weak sulphuric acid, which removes the bases (chiefly pyridine, of which the company export large quantities to Germany, where it is used for denaturising alcohol); and, finally, with very weak soda solution and water. Then it goes into the still, where again the Gabbett mixer is utilised. As for the carbolic acid, that is only a matter of fractionation once the tar-acids are freed from the washings or brought together in initial fractions; and so with the cresols (para and meta), in which the company do a big business with explosives-manufacturers. The crude tar-acids are used in the manufacture of "Ialine," the new soluble disinfectant which the company make. It is a brown liquid which forms an emulsion with water; the

"A" form is guaranteed to contain 25 per cent. of tar-acids (phenols), and the "C" 23 per cent. One fact in in respect to all Messrs. Burt, Boulton & Haywood's disinfectants is that they guarantee a definite percentage of phenols. If my readers take the pains to inquire they will find that this is an exception in the case of coal-tar disinfectants, for the crude oils generally operated on contain non-phenolic compounds which are dissolved and load the resulting disinfectants to the exclusion of the powerfully antiseptic acids. Since the thirties Messrs. Burt, Boulton & Haywood have been creosoted-timber merchants (I had a glance at the timber-docks, yards, and saw-mills, and the creosoting-process). In this work they use pondfuls of creosote oil, which may be regarded as a by-product in the production of tar acids. Ordinarily these oils are worth about 2*d.* a gallon, and as they figure largely in cheap disinfectants which are supposed to be carbolic, buyers can understand the significance of a creosoting-timber annexe to a disinfectant-factory. I should like to say more about the creosoting of timber, but I know the Editor thinks that subject is not pharmaceutical,* and I have still to speak about

The Rapid Mixer.

The Chemist and Druggist readers no doubt noticed this in Messrs. Burt, Boulton & Haywood's advertisement (*C. & D.*, January 13, page iii). Mr. E. R. Gabbett, the inventor of the mixer, is engineer to the company. I have mentioned how it is used in the company's works, and when I add that it is used at the L.C.C.'s sewage-works pharmacists may think it has no interest for them. I thought so, too, at first, but when Mr. Gabbett put some fine sawdust on a gallon of water and twirled a model of the mixer, whereupon the sawdust went careering right down to the bottom of the vessel, round the circumference and through the liquid, only to come pop up to the surface again when motion ceased, I saw how admirable a mixer it would be for pharmaceutical purposes. It is for liquids, thick or thin. The essential part of it is a cone (B in the cross section) which has projecting parts *c*. The cone may be placed as shown in fig. 2 when a liquid lighter than water is to be mixed with water, or, in the case of steam-evaporating pans, stills, &c., in the reverse way (fig. 1). When the cone is revolved the liquid within it rotates and produces rapid centrifugal motion, and, as the figure indicates, the floating matter is drawn inside the cone, is pulverised in its downward course, and rapidly mixes with the liquid. When the narrow end of the cone is put at the bottom (fig. 1) and revolved, the matter at the bottom of the pan or tank is drawn into the cone and flies upwards, being likewise pulverised. Mercury can in this way be mixed with oil. In both cases a violent mixing-action is produced, and, as the cones may be made of any material (*e.g.*, earthenware), the rapid mixer is applicable to many manufacturing-processes. It is just what is wanted by malt-extract manufacturers, for it can be adapted for assisting in evaporation of the extract, and, by reversing the cone, mixing the extract with cod-liver oil. The mixers are manufactured by Messrs. H. Young & Co., engineers, Pimlico, London.

Fig 1

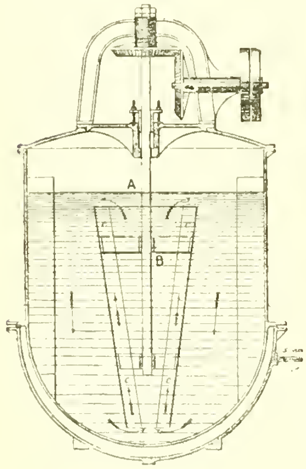
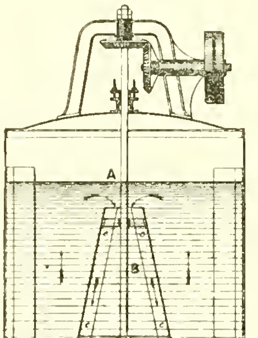


Fig 2



Among the Sponges.

To the every-day matter-of-fact man a visit to the premises of a sponge-importer may not seem to be an exhilarating occurrence. The uninitiated eye sees only an apparently interminable stack of boxes and bales of sponges, all more or less alike, piled on top of one another, to the extent of three or four storeys. But when, as was the case on my visit recently to Messrs. I. & M. Cohen, at 53 and 54 Houndsditch, E.C., the imagination is stimulated to consider the danger and adventure which have been gone through in various parts of the world before these millions of sponges can be produced in the state in which we use them, the subject becomes one of considerable interest. Messrs. Cohen hold contracts for the War Office and the Admiralty, and in the present stirring times the subject naturally cropped up as to whether the war had had any great influence upon the business.

"No, not so far," said Mr. Lawrie Cohen, whom I questioned on the subject; "we are sending out our usual contracts, but we expect before the trouble is over to have a greater number of orders than usual—in fact, this morning we received a large extra order."

He then took me up an interminable flight of stairs and showed me a large pile of small surgeons' and other sponges ready for despatch to the Admiralty. I was introduced, in the course of my journey over the four storeys, to a large Florida cup sponge to retail at a shilling and a Turkey sponge of the same size which sold at a guinea. This seemed a wide margin in value, but the wearing-qualities, texture, and general properties of the one are undoubtedly twenty times greater in the latter than in the former. The finest sponges, Mr. Cohen informed me, are what is known as "Mandrucha" cups, obtained in the Mediterranean. I also saw numerous cases of "first honeycombs," which he assured me are getting scarcer every year, the prices having advanced between 30 and 40 per cent. during the past two years. This, indeed applies to sponges generally—a variety of sponge known in the trade as "sheep-wool" having risen from 50 to 70 per cent. in price in a corresponding period of time. Sponges are cut in various sizes and shapes to suit innumerable trades; for instance, there is a small round Turkey sponge which is used in the boot-trade; another flat-shaped sponge is used at Luton, in the hatmaking industry; while another variety is used in the pottery trade—the finest quality of which, known as the "finest-faced potters'," being used for wiping-off and polishing china. I was shown an attractive line of carded sponges of a better class than is usually carded specially intended for the use of chemists. These sponges are small, clean, nicely shaped, and are fixed on a bronzed card. The clipping and trimming operations prompted me to ask what became of sponge-clippings. Mr. Cohen informed me that a German firm had a short time ago bought up the clippings of the entire sponge-trade in London. He had no idea for what purpose they were to be used, but he assured me he believed he had not half a ton of clippings in his whole establishment. The impression left after my inspection of the premises was that, with the help of the well-equipped warehouses in Collingwood Street, E.C., the firm are capable of undertaking any order of whatever size.

Glass-decoration.

The development of artistic decoration in shop-fittings and glassware has been a noticeable feature in the progress of the trading-side of pharmacy during recent years. The painted wooden shop-sign of ten or fifteen years ago is now replaced by a handsome glass facia, and artistic hand-painted pilasters are a *sine qua non* of every up-to-date establishment. Besides, every speciality-owner who wishes to be abreast of the times has as part of his stock-in-trade a variety of glass advertising-tablets to attract the eye of the passer-by. I have often been curious to find out how these elaborate glass designs are produced, so I gladly accepted

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* One thing Our Town Traveller told us, which he has not mentioned, is the disposal of the pitch, which is run out of the stills in a liquid state, when the distillation process is complete, into a cooler. Before it sets it is transferred to a reservoir, which holds 10,000 tons. There it sets and is dug out with pickaxes and exported to the Continent, where it is used as the binding-basis in making coal-briquettes.—Ed.

Mr. J. R. Corsan's invitation to visit his works at 58A Gray's Inn Road, W.C. Mr. Corsan, jun., took me round. We made a tour of the six floors of the factory, and inspected all the processes from cutting glass to shape to the packing-department. Our first visit was to a 40-horse-power engine driving two exhaust-pumps, which work somewhat on the principle of the Blackman fan and produce the indispensable air-blast. By means of these the air is exhausted from a tubular apparatus, which contains at its base a quantity of very fine dry sand. In sucking-up the air the sand is likewise drawn up with great force, and, striking against the glass held over the orifice, the particles of sand break out and replace small pieces of the glass, and the grooved or obscured appearance is produced. The machine is so constructed that the waste sand falls from the top outside the tube and into a groove at the bottom, from which it is again sucked up. By means of this automatic principle the waste of sand is only at the rate of about one pailful a day. I was shown another process, devised by one of Mr. Corsan's engineers, in which steam and sand are mixed and used in the same way.

The figuring on glass is done by first coating the glass (opal or otherwise) with a dextrin repellant, on which the design is cut out. After drying, the exposed portion is passed over the sand-blast, and the grooved figuring remains. The repellant is afterwards washed off with warm water. When coloured lettering or decorating is required the grooved spaces are painted carefully with a coloured repellant, the article is dried in a steam-chest, and the superfluous matter scraped off. The old method of glass etching with hydrofluoric acid is still in vogue, and the firm have one department set apart for this. In this case, the repellant used is a composition like Brunswick black. After a sufficient exposure to the acid, the glass surface is polished off by hand with powdered emery and a square piece of glass.

Perhaps the most singular of glass-engraving processes is that used in the production of what is known as "crystallised glass." The glass surface to be acted upon is first coated with a special gelatinous preparation. The gelatinised glass is then put into a hot-air chamber and exposed to a high temperature, whereupon the glutinous adherent crackles up, taking particles of glass along with it. On being taken from the oven, this substance, with the glass adhering, is simply brushed off, and the familiar feathery, fern-like impression is left behind on the glass. I was shown school-slates with grooved lines (to teach the young idea how to make curves and strokes); beautiful hand-painted views on opal (a very pretty series was diamond-shaped with gilt edges); engraved glass table-ware for the Imperial Yeomanry; sanitary milk-jars; embossed syphons; acid-bottles (with familiar pharmaceutical titles); and a series of glass facias and pilasters in course of preparation for the stall of a well-known firm of nutrient-specialists for use at the Paris Exhibition.

Artificial Perfumes.

There is another side to the artificial-perfume question than the one which research-chemists gloat over. A well-known West-end perfume-house take the trouble to emphasise the fact that Nature alone contributes to their perfumes, and Mr. Paul Doumin (of Messrs. Jeancard, Gazan & Doumin, 13 St. Mary Axe, E.C.) is an enthusiastic denouncer of the synthetics. I had a chat with him the other day about the matter, and found him to have as keen a nose for true perfume and as keen and genial a humour as any man in the essential-oil industry.

"We hear daily," he said, "lots of rubbish talked in reference to perfumes. Most people pride themselves on having a strong nose, and are apt to become enamoured of strong perfumes. As a matter of fact, however, all scents made directly from the compound perfumes of flowers are not strong. In my opinion the faint odours are the sweetest. The synthetic perfumes of to-day are great in number and small in virtue. Out of fifty or sixty of such preparations put upon the market only one or two have been successes. And rightly so, for in the majority of cases, although they seem at the time to have a faint suspicion of the real article, the odour very soon disappears. Again, such synthetic perfumes as lavender, jessamine, and a variety of others can rarely be used by themselves. They are only of use in giving strength to the real article—the distilled perfume of the natural flowers. This can be understood when we consider that it took Nature nearly six hundred years in some cases to bring the natural scents to the perfection which they have reached; and how can any man, even a learned German scientist, expect to obtain such a perfection after a few months' juggling with C's and H's and O's?"

It is not my business to decide between contending parties, so I asked, "How has the trade been affected?"

"It has not affected the trade in true perfumes to any great extent," replied Mr. Doumin, "but it has complicated it considerably, and it has pandered to the rage for cheapness which seems so paramount with the present generation. Synthetics deceive no one who has experience of natural perfumes, and they would deceive very few amongst the general public could they but have the opportunity of comparing side by side the perfumes distilled from the natural flowers and those made synthetically, or composed of a mixture of the natural and synthetic preparations."

Of the truth of this contention Mr. Doumin proceeded to give me practical illustrations by submitting first a tincture of violets, then an artificial violet. Although both were delightful preparations, a distinct difference between the bouquet and fragrance could be observed: Nature was uppermost. Another interesting item to which Mr. Doumin drew my attention was that while tincture of violets will blend perfectly with almost any perfume, the artificial substance will not do so to any extent. In like manner we sampled an essence of genestre (yellow furze), pink carnation, and various others, and Mr. Doumin assured me the same difference in odour prevailed to a greater or less extent throughout the whole series. "The most successful synthetic perfumes," Mr. Doumin continued, "are ionone, heliotropin, coumarin, and one or two others, and there is no doubt that a great deal more should be done in synthetic perfumes, but for lasting fragrance and flavour nothing can beat Nature. Several years ago when jessamine was the rage the peasants of Southern France and Italy destroyed fields of olives in order to plant jessamine. To-day, thanks to the introduction of synthetic jessamine, they would be very glad to have their olive-trees back again. I may mention that I think we have evolved in our laboratory at Cannes a synthetic jessamine which will prove a success. Nerolin cannot be considered a successful imitation of neroli. Essential oil of neroli is so delightfully fragrant, elegant, and delicate in odour that it is looked upon as a symbol of virginity. On the other hand, nerolin does not approach the true bouquet, but is useful for giving flavour, strength, and 'nosiness' to the inferior neroli which is admired by some people, especially if a little be added," Mr. Doumin added sardonically, "just before giving the preparation to the customer."

I daresay others are of the same way of thinking as Mr. Doumin; indeed, I am told by a perfumery-compounding expert that he can never get the best results with synthetic violets and things of that sort, as the natural odours are needed to make the perfumes last.

A Telephonic Talk about Sponges.

"Are you there, Chemist and Druggist?"

"Yes! Who are you?"

"Cresswell Brothers & Schmitz, Red Lion Square. We want to tell you about a new law, or, rather, an old Spanish law unearthed by the Americans, to control the sponge-fishing in Cuba. It limits the sizes of sponges to be fished to 40 cm. diameter for the first class, 30 cm. for the second, and 25 cm. for the third. It prohibits dredging from boats, the use of hand-drags or hooks, and institutes a close-season from March 1 to May 1. Only inhabitants of the island will be allowed to engage in sponge-fishing, and no privilege or monopoly is to be granted. The information we have from Cuba is that the rule as to the size is being strictly enforced, and already the American Government has seized a large parcel of sponges which contain some below the regulation-sizes. We think the close-season regulation is too stringent, and is based on misapprehension or ignorance respecting the natural history of sponges—some notion that they have a breeding-season, which, you know, is wrong. The rule as to sizes is quite sufficient to gain the object intended, and representations have been made to the Government which will result in an inquiry."

"And what effect has all this upon the market?"

"Well! we expect that the prices of Cuban sponges will go up."

"And how do you find business, Mr. Cresswell?"

"Pretty good. We have purchased the goodwill, stock, and book-debts of Mr. A. Louis, sponge merchant, 65 Aldersgate Street, E.C. That business was established in 1830. Our branch in Paris is doing so well that we have added another warehouse adjoining our 175 rue du Temple place. Mr. George Cresswell has charge of it. I wish you would give us a look up there when you go to the Exhibition and *C. & D.* readers, of course."

"Good morning."

"Good morning."

NEW OFFICES.

I made a call to see the new offices of Messrs. Typke & King, chemical-manufacturers, 47 Wilson Street, Finsbury Square, E.C. The painters were busy putting the finishing-touches to their decorative efforts, and, under the guidance of Mr. W. R. King, I inspected the premises. The basement is used as packing-rooms, and the arrangements of this are well designed to insure despatch. On the left side of the ground floor is the private office of the principals. This is fitted with roll-top desks and similar modern office-conveniences, and is in telephonic communication with other parts of the building. The general offices on the same floor are excellently lighted by skylights, smaller offices being reserved for the typists and telephone-attendant. On the first floor are another comfortably-fitted office and spacious store-rooms. The top floor is also to be used as store-rooms when the premises are in complete working order. "We have more space than we have been accustomed to," remarked Mr. King. "We shall be able to keep a larger stock of our chemicals here for immediate delivery, instead of having to procure them from our Mitcham and Rainham works." I need scarcely say that pharmaceutical chemicals, especially products of phosphorus, are the firm's line of business.

"No. 11."

A visit to Messrs. S. Maw, Son & Thompson's at this particular time is of special interest to a Town Traveller. When I called the other day everything was at high pressure, consequent upon the receipt of large Government orders for surgical instruments, medical necessaries, and general equipment for the forces in South Africa. The firm have been very busy over the City Imperial Volunteer equipment and they are supplying nearly the whole of that required by the Imperial Yeomanry. This equipment consists of (1) stretchers, (2) field-companions, and (3) field-haversacks. The stretchers are strongly made of ash-poles (not deal), with traverses of galvanised forged iron. Sir William MacCormac has found during his sojourn in South Africa that the stretcher-system, as employed in the present war, is incomparably superior to the ambulance-waggon, as it saves the painful jolting. Field-companions are light and strongly-made wicker baskets covered with horse-hide, and have straps for harnessing over the shoulders. They contain ligatures, dressings, surgical-instruments, splints, &c., ready at hand for the surgeon as soon as the wounded man is brought for treatment. Every detail of the surgical-dressings equipment is rigidly aseptic or antiseptic, and no doubt it is on account of the attention to this detail that such splendid reports are received of the success of the surgeons on the field of battle in the treatment of wounds. The haversack is carried by No. 4 of each bearer-company, so that whenever a stretcher reaches a wounded man it can at once be opened by No. 4, who is trained to give first-aid; the wound is dressed immediately, and the wounded at once lifted into the stretcher, made as comfortable as possible, and carried to the rear, to come in for further treatment by the surgeon or be transferred at once to the field-hospital. The surgical instruments are of Messrs. Maw's best, and I noticed that all the handles of operating-instruments are fluted, thus making it much easier for them to be kept in an aseptic condition. Messrs. Maw, Son & Thompson provided the surgical equipment which Sir William MacCormac and Mr. Treves took out with them to South Africa. The aseptic dressings are all put in airtight cases. Mr. Treves had special circular tin cases made, containing just one dressing each. These cases are divided in the centre by a narrow strip of soldered tin, which can easily be torn open, two sides of the tin separating and displaying the aseptic dressing. Each side of the tin is then laid open, for the purpose of forming two small trays, and when the dressing is applied the tin can be thrown away. The field-glasses which Messrs. Maw have sent out to the Cape in large numbers show distinctly at six or seven miles' range, bullet-marks in targets being easily distinguishable at 3,000 yards. Attached to these glasses are glass discs of a violet-blue colour. These fit closely over the end of the object-glasses for the purpose of enabling the sighter to distinguish fumes from smokeless powder. The appearance of the otherwise invisible smokeless-powder fumes given by these glasses is similar to that of steam.

After a visit to this department the sundries-showroom seems a bit prosaic, but I saw a few things there which are worth mention. There are new feeding-cups in pretty patterns, including the "Red Cross"; blue hexagon-shaped wide-mouthed, poison, pigment or ointment bottles, which may be had with glass-stoppers or boxwood-topped corks. The super-quality recessed shop-rounds, which we have noticed before, are still "booming," I was informed, and in this line the more recent recessed oil-round (a splendidly-made bottle) is also "going strong." Errand-boys' leather wallets or knapsacks are shown in improved shapes, being made entirely of leather, not padded as formerly, and, although superior in material and durability, the price remains practically the same.

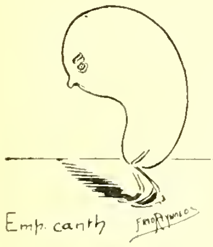
Italian Military Pharmacy.

At the head of all the Italian military dispensaries stands the "Central Pharmacy," which supplies a large proportion of medicines to its branches. Several drugs are bought, for cheapness' sake, in large quantities, and distributed either entire (hydrochloric acid, ergot, Alexandrian senna), or in powder (opium), or purified (mercury). A great many fine chemicals are prepared, such as the salts of morphine and strychnine, tannic acid and bismuth oxynitrate. The "Handbook of Medicaments and Accessory Substances in use in the Military Sanitary Service in Peace and War" is the Companion to the official Pharmacopœia for Army dispensers, and is in many respects so practical that it has been set up as an example for the coming civil Pharmacopœia. The number of drugs to be stocked is rather large, being 433, against 355 which are required by law in every German pharmacy. A short description of every substance is given; for the tests the official Pharmacopœia must be consulted. Then follow dose, antidotes, incompatibles, and preparations. In case of powdered or galenic preparations the amount to be obtained is given: thus from 10 kilos. of sweet almonds 4·5 kilos. of oil must be pressed. To the tap-water 0·06 per cent. of sodium phosphate is added before distilling. Johnson's surgeon's rubber adhesive plaster and green tea are official. The second part of the Companion contains ninety-six named formulas, mostly worked out to 100 grammes, for inward use. If the doctor states on the prescription "sweetened" or "honeyed," 6 per cent. of sugar or honey is added; "with laudanum," 0·2 per cent. of Sydenham's laudanum is given. Six formulas are for baths, and eleven for hypodermic injections, much weaker than the B.P. If they are to be kept for some time, instead of water, glycerin and water are used, previously sterilised according to Tyndall's method. The last part of the Companion treats of the analysis of water, wine, vinegar, distilled spirit of anise (which is added to the ration of water of the soldiers on long marches, or when it does not appear to be quite fresh), milk, flour, bread, biscuits, alimentary pastes, and how to determine the amount of corrosive sublimate in antiseptic material.

MR. ARTHUR DOBLE, chemist, who was brutally assaulted at King William's Town, South Africa, by Cornish miners, as reported in our last issue, is a native of Tavistock, being the youngest son of Mr. H. S. Doble, chemist and druggist, of the Tavistock Pharmacy.

Pharmaceutical Fancies.

Mr. Fred Reynolds has sketched these pictures, but we are responsible for the verses.



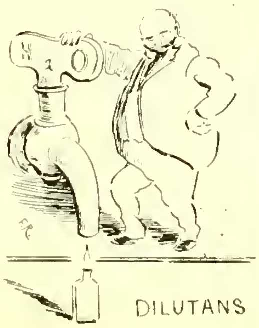
Our pharmacy experience is quaint-like,
For many things are never learnt by rote,
But we all have met the gent. that's "feeling faint-like,"
And has a chronic dryness in the throat.

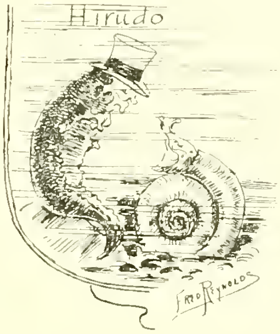
He differs from his friend and blood-relation,
Who revels in Nicotiana's bowl;
But together they produce a combination
Which is cooling to the body and the sole.

To the pharmacist I'm reckoned indispensable,
For they say that untold profit in me lies;
And the public whisper slanders indefensible
Which often bring the water to my eyes.

I'm the product of much counter-irritation,
And though my rise to magnitude be slow,
If wishful to secure my subjugation
You must hasten to the gentleman below.

I am slim and slick and full of saponacity:
I have camphor and rosemary all my own;
And I'm solemn or I'm filled with gay vivacity,
With a deferential lisping in my tone.





I represent the fundamental basis,
The healer and the soother—made of fat;
And although I may be slightly oleaceous,
There's something quite appropriate in that.

I'm a sample of acetous fermentation,
And alone pursue my vinegary way;
And I always do obtain appreciation,
But object to Reynolds copying Phil May.

To the gentle Sanguisuga most sedately
Quoth the gentleman enshelled—and he smiled—
"Pray, Mr. Leech, have you been drawing lately?"
Said he, "With coloured orbs my time's beguiled."

I've been guilty of much conduct aggravating,
And now the sweets retributive I sup;
I've been ordered applications stimulating
In the nature of a healthy "pick-me-up."

I should like to know why indeed!
ACETICUS.

Our Supplements.

A SERIES OF NOTES DESCRIPTIVE OF THE CIRCULARS AND PRICE-LISTS WHICH ARE INSERTED IN THIS ISSUE.

ONCE more we have to call attention to a large number of circulars and price-lists which are inserted by leading houses connected with the drug-trade in this issue of THE CHEMIST AND DRUGGIST. Some of these are elaborate productions in chromo-lithography and other methods of colour-printing. Such insets as these deserve careful perusal by all business-men. They are a very handsome, indication of the growth of enterprise in the drug-trade, for a decade ago it was impossible to bring together such an admirable collection of insets as is now presented, which indicates not only increased enterprise on the part of advertisers, but that buyers freely respond to the call. We may also say that it is possible only for such a publication as THE CHEMIST AND DRUGGIST to distribute circulars and price-lists in this way, for this number is not treated by the postal authorities as a newspaper, but as a book, so that the cost of distribution is much enhanced. Nevertheless the charges which we make for inserting circulars and price-lists in this manner show a very considerable saving over distribution singly by post, and it may be useful to mention here that the next occasion on which we can receive such circulars and price-lists for insertion in THE CHEMIST AND DRUGGIST will be for the Summer issue of July 28. Those who think of adopting this method of advertising should in the first instance communicate with the publisher of THE CHEMIST AND DRUGGIST, 42 Cannon Street, London, E.C., in order that they may obtain from him a printed sheet of directions to give to the printers, so that they may keep within the stipulated lines.

In the subjoined paragraphs the folios given refer to the pages in the advertisement sheets between which the insets will be found.

Allen & Hanburys (Limited), of Plough Court, Lombard Street, E.C., insert a copy of their complete price-list (124 pages), comprising all the goods and manufactures which they offer to the trade. It will be observed that, in addition to the four establishments which this firm now have in London, they have factories and branches at Ware Mills (Herts), in Norway, Melbourne (Australia), Durban (Natal), New York (U.S.A.), Toronto (Canada), and Hamburg (Germany). The first part of their list is a prices current of drugs, chemicals, and medicinal preparations generally. Then follow brief particulars of the Allenburys liquorice-juice, French essences, and fragrant cachons. Next are a wholesale prices current devoted to fees for chemical and microscopical analyses, soluble pills covered with gelatine, sugar, or pearl-coating; a list of Kapsols, capsules, and perles, one of compressed drugs, plain and sugar-coated; hypoderms or soluble tablets for making hypodermic injections; a list of stains and reagents for microscopic work, also one of cachets; others devoted to throat pastilles, lozenges, and combined powders divided into doses ready for dispensing, effervescent salts, concentrated mixtures (numerous formulæ), and many other medicinal specialities; to all of which are added illustrated lists dealing with medical and druggists' sundries, and the special Allenburys preparations, which comprise an attractive list of counter specialities for the retail trade. (Inserted loose.)

The Anglo-American Oil Company (Limited) insert a circular dealing with their white-rose American lamp-oil, this being a chromo-lithographic handbill such as they are willing to supply dealers with, on application, for counter-distribution. The handbills give useful hints to householders in regard to the treatment of lamps and burning-oils. (Pp. 206–207.)

Ayrton & Saunders, Liverpool, show on their inset the versatility of their efforts for the drug-trade. First, they give concise particulars of their cachets (some lend themselves for specialising); then they exhibit how they foster the retailing of hair-brushes, combs, and tooth-brushes by appropriate carding and boxing; next they illustrate display show-stands which they make; and, lastly, figure and describe the "Liverpool" and "I.X.L." dispensing-screens and "Pharmaco" counter. (Pp. 64–65.).

Brunner, Mond & Co. (Limited), Northwich, Cheshire, manufacturers of soda by the ammonia process, and the owners of the "Crescent" brand of alkali, insert particulars regarding the use of mineral-water bicarbonate for the production of carbonic-acid gas for aërated waters. Full directions are given on the back of this inset how to use bicarbonate of soda in place of whiting. (Pp. 32–33.)

Cantrell & Cochrane (Dublin and Belfast). "The Beverage of the World" is the motto on this firm's inset. "The Beverage," it is hardly necessary to say, is ginger-ale Aërated waters of every kind are also made, and as they are supplied to the Prince of Wales, the Viceregal Court of Ireland, and her Majesty's Houses of Parliament, we can mention these as opinions of the best judges. (Pp. 32–33.)

Thomas Christy & Co., 25 Lime Street, E.C., are so versatile in the production of decorative circulars that it seems almost unnecessary to say anything in respect to them. The one which they insert on this occasion is a work of art, and deals with koseals and cachets (both the cachets and the apparatus being illustrated). Menthol-cones, adeps lanæ, distilled extract of witch-hazel, worm-chocolate, "Evergreen" colours for tinting perfumes or other liquids, "Pictet's ethyl chloride" in tubes ready for dental and minor surgical operations, "Amoreta" soap, Stearns medicinal specialities, collapsible tubes for filling, are all shown, together with the following goods:—Putnam fadeless dyes, tablet triturate moulds, feralboid, lyptol, thialion, hydrozone, glycozone, eye-balsam, glandulen, fluorine preparations, malarin, iodalbacid, uricedin, Puro meat-juice, Tyree's antiseptic comp., Tyree's hyposulphites comp., Tyree's litmus-pencils, Anderson's vaginal capsules, C. F. Hausmann, Berne (glutoid capsules, &c.), Strong's arnica tooth-soap, and Gardner's syrup of hydriodic acid. (Pp. 142–143.)

Cuxson, Gerrard & Co., of Oldbury, manufacturers of the "Red Cross specialities," and all kinds of antiseptic and surgical dressings, devote their inset to a list of household, sanitary, and toilet specialities, and Gerrard's mustard plasters. The inset also includes an illustrated price-list of carbolic powder put up in various forms from 1*d.* cartons to 1-cwt. bags. The firm offer to pay carriage with orders of 3*l.*, and will send special quotations for contracts and prices for anything on their inset. (Pp. 142–143).

J. Defries & Sons (Limited), 147 Houndsditch, E.C., the sole licensees and makers in this country of the Pasteur-

Chamberland filter, describe the characteristics of that filter, of which there are nearly a quarter of a million in use in the French army alone. The filter is a perfect steriliser of water, and is offered in various forms, figures and prices being given on the back page, where also its utility for the aërated-water industry is referred to (Pp. 64-65.)

John Dickinson & Co. (Limited), 65 Old Bailey, E.C., offer blotting-paper in a new form—namely, in packets cut, folded, and ready for use. This special form of blotting-paper is called the "Asoka," and twenty sheets form a 3*d*. packet. The firm are also offering chemists' demy at 4*s*. 7*d*. per ream, and to save delay it will be noted that the inset is printed upon a sample of the demy paper. (Pp. 32-33.)

Durafort & Son, of Paris, whose agent is Mr. E. Schmolle, 42 Gutter Lane, E.C., depict on their orange-coloured inset a section of the head of their porcelain-lined syphon-head, the advantage of which is that metallic contamination of the syphon-water is impossible. They make the syphon with heads in half-a-dozen distinct forms, which are illustrated, and the silvering is guaranteed. (Pp. 32-33.)

William Gray & Co., of Hull, manufacturers of the "Red Cross" and "Hour-glass" brands of paints, insert a list containing quotations for English white-lead, "Royal Daylight" oil, dry colours, varnishes, wood-stains and enamel-paints, gold, silver, and bronze paints, besides many oils, drysalteries, &c., which are articles of the heavy section of the drug-trade. (Pp. 203-207.)

Dr. John Hooper's female pills were, it is interesting to note, the subject of letters patent granted to Dr. John Hooper by George II. Messrs. May, Roberts & Co., 9 Clerkenwell Road, E.C., print on their inset facsimiles of the wrappers, &c., in which these pills are done up. This is important, because on the Continent and in North and South America spurious Hooper's pills are offered to the trade, even the British Government stamp being a forgery. We therefore call attention to the facsimiles, and it will also be observed that bonuses amounting to ten guineas are offered to the three persons sending in to Messrs. May, Roberts & Co. the largest number of the coupon tickets, one of which is enclosed inside every box of the pills. (Pp. 142-143.)

Jewsbury & Brown, of Manchester, insert one of the prettiest circulars distributed with this number. It is devoted to their aërated beverages, and the illustrations have been produced with wonderful reality by the three-colour block-printing process. On the first page is a reduced facsimile of their syphons—(all Jewsbury & Brown's syphons are 2-pint); on the second page is a facsimile of their crystal blue ginger-beer bottle—a speciality of the firm since the early years of the century. Then there are also a hop-ale bottle and a facsimile of the aërated-water bottles. The business-mottoes and epigrammatic notes printed on each page of the inset well deserve the attention of the trade. (Pp. 32-33.)

Lorimer & Co. (Limited), wholesale and export druggists, Britannia Row, Islington, N., insert 80 pages from their illustrated prices-current of pharmaceutical specialities, particularly articles which any chemist can have put up with his own name on the labels. The inset begins with portraits of Mr. John Lorimer and Mr. Horace Brocklesby, managing directors of the company, which, although only incorporated last week, has, as a firm, twenty years' experience in the production of "chemists' own-name counter specialities," Mr. Lorimer having started business with a strong belief that the only way in which retailers could meet speciality competition was to be well supplied with attractively-put-up specialities under their own name. Few have the facilities to do the work themselves. The following are some of the departments to which the list is devoted: Veterinary medicines, gelatin capsules and perles, pearl-coated pills, cachets, compressed pellets, fancy toilet-soaps, lozenges in bulk and boxes, suppositories, powders, and all other official forms of medication, extract of malt and its combinations, petroleum emulsion, syrup of hypophosphite, cod-liver oil, and so numerous a line of packed goods that the mere enumeration of them would be as dry reading as a perusal of the pamphlet itself is inspiriting and instructive. (Inserted loose.)

McKesson & Robbins enumerate, on a tastefully-designed supplement, some of the special drugs and pharmaceutical preparations they deal in or manufacture. The "Ovoid" pills are made in all the B.P. formulæ, and a short selection of McK. & R. special combinations is given, which makes one wish for more. The compound stearates, a McK. & R. speciality, are, from their lightness, power of resisting moisture, and non-liability to become rancid, ideal dusting or insufflating powders. The many varieties are enumerated on the final page. (Pp. 64-65.)

Maison Central de Produits Chimiques et Pharmaceutiques, of Brussels, of which M. Leon Becquet is the founder, has developed into a distinct co-operative trading success. The principles upon which the Association is founded are, briefly: The buyers take shares in the Association for an amount corresponding to their annual purchases. Upon the shares 6-per-cent. dividend is paid. Goods are charged to purchasers at market cost, no matter how small the quantity may be, *plus* a percentage for working-expenses, and at the end of the year any profits are divided amongst the purchasers, according to the business they have done. These profits or benefits are depicted on the circular in a humorous style, and we understand that the object of the circular is to pave the way for the formation of a similar association in England, with English capital and English management if M. Becquet's idea catches on. Any who are taken with the idea should write to him for further particulars (Pp. 142-143.)

E. Merck, of Darmstadt, issues from the London house, 16 Jewry Street, E.C., a 12-page circular, which is really the price-list of the firm *minus* the prices. The inset gives an excellent idea of the comprehensive working of this old-established and world-famed firm. It will be seen that technical chemicals for photography, perfumery, electro-chemistry, textile industries, pyrotechny, varnish making, and the leather trades are specialities of this house, as well as pharmaceutical chemicals of all kinds, and pure chemicals for experimental purposes. All Merck's chemicals can be obtained by retailers through the ordinary trade channels, or in wholesale quantities from the Jewry Street house. (Inserted loose.)

A. & F. Pears (Limited), 71-75 New Oxford Street, W.C., have a characteristic 4-page inset in red, and tinted green, announcing themselves on the first page as Royal Warrant holders to Her Majesty and H.R.H. the Prince of Wales. On the inside pages they give particulars of sizes and varieties of their soaps, plain and perfumed, together with the wholesale prices, and notify a special discount of 20 per cent. on all orders of not less than 5*l*., if accompanied by remittance. They further intimate that no dealer in the kingdom, for any quantity, obtains a higher discount than this. Twenty prize-medals have now been awarded this firm, whose price-lists and showcards can be obtained on application to the London depôt, or to 365 and

367 Canal Street, New York, or 495–97 Bourke Street, Melbourne. (Pp. 32–33.)

Mr. Andreas Saxlehner, Buda-Pesth, and Trafalgar Buildings, Charing Cross Road, W.C., artistically shows in colour representations of bottles of the noted "Hunyadi-Janos" Hungarian aperient water, for which is claimed twenty-five years' success in the United Kingdom. The advantages of this water, as reported by the *Lancet*, are set forth *in extenso* on the second page, and extracts from reports of other medical journals are given. A coloured picture of the Saxlehner establishment near Buda-Pesth completes a very handsome and attractive inset. (Pp. 32–33.)

Scott, Greenwood & Co., Ludgate Hill, E.C., insert a list of practical books for practical men, which they publish. The first of these is Mr. E. J. Parry's "Chemistry of Essential Oils and Artificial Perfumes," which we favourably reviewed. Then come "Hursts' Soaps," a book on the manufacture of varnishes, and other works dealing with fats, oils, colours, and leather manufactures. (Pp. 64–65.)

Shirley Brothers, White Cross Works, Rockingham Street S.E., are the authors of "Who are these?" circular. This contains illustrations and prices of feeding-bottles, soothing-teats, nipple-shields, menthol-cones, tooth-powders, trumpet-sprays, and other specialities, and numerous perfumes manufactured by the firm, such as "Kentish Honeysuckle," "Royal Roses," and "Killarney" violets, lilies, and wallflowers, as well as plain and decorated tin boxes suitably labelled ready for filling. (Pp. 142–143.)

Spratt's Patent (Limited), 24 and 25 Fenchurch Street, E.C., insert a pictorial four-page inset in this number, giving black-and-white pictures of dogs, feathered game, domestic fowls, and wild birds, &c. This is illustrative of their manufacture of dog, poultry, game, and cage-bird foods, medicines, and appliances. They also note their non-poisonous dog-soap, used in preparing the coat for exhibition, and give a full list of medicines for dogs, with the retail prices attached. For lap-dogs and medium-size breeds their patent biscuits—"Toy-pet," "Malt and Cod-liver Oil," "Terrier," "Puppy," and "Pet" biscuits—are enumerated as handy lines for chemists, being obtainable in sixpenny boxes. Ship and army biscuits chemists' lines in packed goods, such as mixed bird-seed, parrot-seed mixture, sand for cage birds, specialities for finches and linnets, &c., at prices ranging from 1*d.* to 1*s.*, are also detailed. (Pp. 206–207.)

Stevenson & Howell (Limited), 95A Southwark Street, S.E., insert in the copies of this Number distributed at home, a circular dealing with their new soluble essence of lemons. This essence is the result, we understand, of a long research, through which they have been enabled to present in a perfectly soluble form an essence representing exactly the aroma and taste of fresh lemons. The essence is highly concentrated, and 1 oz. of it is sufficient for 1 gal. of syrup. Fruit-extracts are also a speciality of this firm, and the artistic reproduction of fruit on the front page of the circular is an effective exhibit of what they can do in this department (Pp. 32–33.)

William R. Warner & Co., of Philadelphia, whose agents are Messrs. F. Newbery & Sons, Charterhouse Square, E.C., insert an illustrated price-list of their soluble coated pills, compressed tablets, granules, effervescent salts, and special pharmaceutical preparations, including Ingluvin, Bromo Soda, and sumbul preparations. The illustrations include new styles in which the firm are putting up Blaud's tonic pills and tablets, to which reference is made elsewhere in this issue. The firm are also putting up their lithia lentiforms in a new package, of which a facsimile is printed on page 5 of the list. (Inserted loose).

Young & Smylie, New York, U.S.A., manufacturers of liquorice goods, have appointed Messrs. F. Schutze & Co., 89 Southwark Street, S.E., as their selling agents in Great Britain. Their liquorice products are the "Acme" brand, and they give on this inset coloured and other representations of the different styles in which they put up liquorice-juice in sticks, pellets, lozenges, and cakes, either ready for retailing or for counter display. (Pp. 64–65.)

Zimmer & Co., the quinine-manufacturers of Frankfort-on-the-Main, have within the past few years produced some notable new remedies; particulars of four of these, namely, euquinine, validol, urosin, and eunatrol, are printed on the circular which they insert. These products, as well as Zimmer's quinine salts, cocaine, iodine preparations, &c., may be obtained through their agents, Messrs. Widenmann, Broicher & Co., 33 Lime Street, E.C. (Pp. 64–65.)

Marriage.

GILL—ROBATHAN.—On January 10, at St. James's, Ashted Birmingham, Herbert Edward Gill, chemist and druggist eldest son of E. H. Gill, of Belbroughton, to Ada Beatrice youngest daughter of Mr. J. W. Robathan, of Handsworth Birmingham.

Deaths.

BARRETT.—On January 9, at Chichester, Mr. James Barrett, pharmaceutical chemist, late of Bayswater. Aged 57.

ELLIS.—January 21, at Topsham, near Exeter, Mr. E. Ellis, chemist and druggist, only son of Mr. Frederick Ellis, chemist and druggist. The deceased carried on business in Topsham with his father. He was greatly respected in the district.

EVANS.—On January 20, at Westfa, Llanelly, Margaret the wife of Mr. Gwilym Evans, J.P., D.L., High Sheriff of the County of Carmarthen, and daughter of the late John Glasbrook, Esq., J.P., Swansea.

FENNINGS.—On January 7, Mr. Alfred Fennings, chemist and druggist, West Cowes, I.W. Aged 85.

HUME.—On January 13, Mr. Nathaniel Hume, chemist and druggist, Torriano Avenue, London, N.W. Aged 77.

KERMODE.—On January 13. Mr. R. K. Kermode, chemist, of Castletown, Isle of Man.

LEE.—On January 13, at Bank Head, Bentham, Mr. W. Lee, chemist and druggist. Aged 59. Mr. Lee was for many years in business at Manchester, and on retiring from commercial life went to reside at Bentham. He died after three' days illness from pneumonia.

MUIR.—On January 8, Mr. George McCartney Muir, chemist and druggist, Newcastle-on Tyne. Aged 34.

Wills.

ROBERTSON.—The will of Mr. John Robertson, late chemist and druggist, 112 Craven Park Road, Harlesden, and 41 Amesbury Avenue, Streatham, who died on May 9, 1899, has been proved by Mrs Robertson, widow and executrix of the testator, the amount of whose estate is entered at 446*l.* 10*s.*

THORNE.—The will of Sir Richard Thorne Thorne, F.R.S., K.C.B., Principal Medical Officer to the Local Government Board, &c., who died on December 18, 1899, is proved by his sons, Leslie C. Thorne Thorne, M.D., and Berthold B. Thorne Thorne, M.D., by whom the testator's estate is sworn at 8,271*l.* 6*s.* 3*d.*, of which 4,621*l.* 13*s.* 2*d.* is net personalty.

Mainly about Novelties.

SPRATT'S PATENT (LIMITED)

are sending out a neat brochure, in artistic green cover, profusely illustrated, giving a full description of their offices and works in Fenchurch Street, E.C., Bermondsey, Poplar, New York, and Berlin. The publication also contains photos of the representatives of Spratt's Patent, and a coloured copy of a touching picture which will shortly be issued from their advertising-department.

CARBOLIC TOOTH-POWDER.

Messrs. F. Newbery & Sons, 27 and 28 Charterhouse Square, E.C., are putting up carbolic tooth-powder in very attractive style. The tins are enamelled in silver, with blue lettering, and make one of the most effective packages we have seen for tooth-powder. The powder is a pretty pink colour, and contains, as evidenced by the odour, a good proportion of carbolic acid. The article is one of the "St. Paul's" series of counter-specialities.

ANTISEPTIC THROAT-PASTILLES.

Messrs. Jules Denoual & Co., of New Cross, S.E., have introduced this winter an excellent throat-pastille under the above title. The pastilles are of the conchoidal shape, and are made of a gum-basis compounded with liquorice, menthol, gaultheria, oil of Scotch fir, and other therapeutic agents, the combination being one prescribed by a well-known throat physician. The pastilles are pleasant to taste, and, what is better, efficacious in action, and should be a popular line.

ACME ANTISEPTIC INHALERS.

Mr. G. T. W. Newsholme, pharmaceutical chemist, Sheffield, has invented a novel inhaler for which there should be a good sale just now, especially when influenza is about. It consists of a tiny straw-plait helmet with elastic strings to go over the ears. Into the apex of the helmet a piece of cotton wool is put for holding the antiseptic substance, and on breathing the wearer takes into the lungs the antiseptic vapour. The inhaler is so made that it covers either the mouth alone or mouth and nose.

CRYSTAL PALACE MARKING INK.

Mr. A. B. Hickisson, 75 Southgate Road, London, N., the manufacturer of John Bond's "Crystal Palace" marking-ink, sends us a sample of the new shilling bottle of marking-ink which he is now putting on the market, along with an improved linen-stretcher, as well as a coupon entitling the purchaser to a free rubber-stamp on application. We observe that, although Mr. Hickisson is giving these inducements for the purchase and sale of the "Crystal Palace" marking-ink, the quality of the ink is well maintained.

TAPE CONVERTER.

Mr. Thos. Taylor, 19 Sweeting Street, Liverpool, has brought out an ingenious tape measure for converting metric into Imperial weights and measures, and *vice versa*. The tape measure is graduated so that the corresponding weight or measure in the two systems is seen at a glance. The sample we have is for converting pounds, quarters, and hundredweights into kilogrammes, and inches into millimetres, and this it does much quicker than it could be done by calculation or reference to a ready-reckoner.

CARRIER-CYCLES.

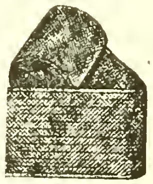
Messrs. Reigate & Mason, Birmingham, send us a new edition of their price-list of carrier-cycles. No. 7 "Reigate Express" carrier is a special pattern for the use of chemists and druggists, and can be fitted with partitioned trays for syphon-delivery. The wheels of the carrier are fitted with ball bearings and solid rubber tyres, so that the cycle should run easily. A chemist with such a smart turn-out would doubtless increase his reputation for prompt delivery of medicines, which should result in increasing business.

IMPERIAL DYLISSIA SOAP.

Messrs. Durant & Co., Rosebery Avenue, London, E.C., whose toilet-preparations have during the past year acquired considerable popularity, have now added to them Imperial Dylissia toilet-soap and a shaving-soap in sticks. Both soaps are made from a pure neutral and non-alkaline basis agreeably perfumed. The toilet-soap is wrapped tastefully and boxed in dark-green cartons with illuminated label. The soap lathers freely, is an excellent detergent, and agreeable and emollient to the skin. The shaving-stick is put up in dark-green leatherette cases embossed with gold, and those who shave will find it a distinct assistance in the operation.

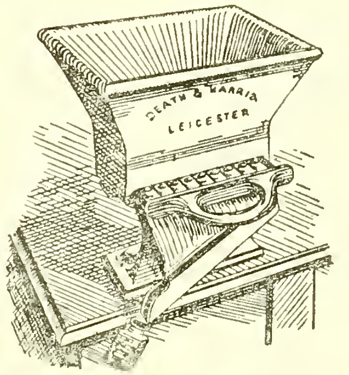
CELLULAR-CLOTH BANDAGES.

Mr. Vincent Wood, Victoria House, Albion Place, Blackfriars Bridge, S.E., has sent us a sample of his new "Eureka" cellular bandages. The fabric of which the bandages is made is of an exceptionally open structure, but is, we find, very strong, and does not give to any great extent. The illustration shows the structure. The chief advantages of the bandages are that owing to this open structure they are less heating than ordinary bandages, and they are also supplied at a much cheaper rate, the 2½-inch size costing 7*s.* a dozen. Mr. Wood intends making a feature of these cellular bandages, and to help the sale offers to supply chemists with circulars and electros where needed for illustrating price-lists.



PILL-COUNTER.

The annexed sketch illustrates a new pill-counter which Messrs. Death & Harris, of Leicester, have recently perfected. It is a very simple affair, and consists of a hopper (into which the pills are put) with a sliding bottom perforated with thirty-six holes. This bottom slides in and out quite freely, and when brought out it carries with it thirty-six pills, which drop into a trough and so down the slope into the box or bottle into which they are to be packed. If a smaller number of pills are required to be counted, one simply fills up the requisite number of holes with sealing-wax. We have used the counter and find that it does its work well as long as it is supplied with pills.



FOR THOSE WHO ARE FAT.

Dr. W. T. Cathell, of Baltimore, read a paper at the annual meeting of the Maryland Medical Faculty, in which he said that fat should constitute from a fifteenth to a twentieth of a person's weight. If a person possesses, say, a ninth or sixth of his weight of fat, corpulence or over-fatness is present to an unhealthy degree. The causes of fatness are congenitally small lungs with defective oxygenating capacity, excessive eating, lack of lung-expanding exercise, and the use of alcohol in excess. Dr. Cathell then reviewed the several means for reducing obesity, and recommended, as being free from any tendency to injure the health, a course of Kissingen and Vichy water—three doses of Kissingen to be taken after meals on one day, and three of Vichy on the following day, and their use to be continued on alternate days until the discomforts of obesity are over. In accordance with Dr. Cathell's suggestion Messrs. W. R. Warner & Co., Philadelphia, have prepared these waters in the form of tablets, which they say have been tried and found reliable and active in the treatment of obesity. Each box, retailing at 2*s.*, contains bottles of Kissingen and Vichy water-tablets. The tablets are stocked by Messrs. F. Newbery & Sons, 27 and 28 Charterhouse Square, E.C. We have also to hand a sample of Blaud's pill tablets, which Messrs. Warner are putting up in handy bottles for the pocket. The tablets are sugar-coated, the coating being even and smooth.

AN EXPORT PRICE-LIST.

MESSRS. C. J. HEWLETT & SON, export druggists and manufacturing chemists, Charlotte Street, E.C., send us a copy of the January issue of their price-list, the contents of which are much the same as those of previous issues, but the back of the cover is a unique production, as it contains portraits of the Premiers of Newfoundland, West Australia, New Zealand, South Australia, New South Wales and Victoria, surrounding a central portrait of the Queen-Empress of the British Empire. The portraits are exceptionally good and are artistically grouped. Any of our European subscribers who have not received a copy of this list will get one on writing to Messrs. Hewlett.

PRISMATIC FIELD-GLASSES.

THE field-glasses, made by Messrs. Ross (Limited), 111 New Bond Street, W., which we briefly mentioned in the *C. & D.*, December 2, 1899, page 905, are just now much to the fore on account of the demand for them by officers serving with the Army in South Africa. The principle of Porro's arrangement of total reflecting prisms is adopted in these glasses, the use of prisms enabling a field-glass to be constructed of the same power, but of only a third the length of an ordinary binocular telescope. The prisms and lenses require great nicety in mounting, and Messrs. Ross claim that their method of doing this ensures the instrument working with perfect alignment when fairly used. Each eyepiece is separately adjusted by the user so as to neutralise refraction errors of the eyes, when present. The prismatic binoculars are made to give various magnifications; one magnifying six diameters sells at 8*l*., twelve diameters, 10*l*. Monocular prismatic glasses are also made.

CERTIFIED CLINICALS.

THE Taylor Brothers Company, of New York, who, some five years ago, commenced to sell clinical thermometers in the United States exclusively on their own certificates, have recently opened a branch warehouse and office at 106 Hatton Garden, London, E.C., and they are now calling the attention of the trade through THE CHEMIST AND DRUGGIST to the particulars of their system. We had a conversation with the manager of their London office the other day, when he told us that up to the time of his company starting their system all the best clinical thermometers in the U.S. market were sold under their Yale certificate, which is equivalent to the Kew certificate with us. People who wanted the best would then have no other. By persistent advertising and giving a good article the company have so well educated purchasers up to the value of the Taylor certificate that now the company claim to sell nine-tenths of the clinical thermometers used in the United States, and last year they sold 100,000 certified thermometers. Every one that they send out, no matter how cheap it may be, is certified. There are three grades of certificates, the yellow certificate being the best, blue second best, and red third grade. The company have three factories and have never less than 100,000 ungraduated clinicals in stock, and all the thermometers are allowed to season for twenty months after they are filled before they are graduated. When that work is done each thermometer is checked by an expert, who writes the certificate, upon which the corrections at 95°, 100°, 105°, and 110° are noted. The thermometers are then sorted into the grades; those that have the yellow certificate attached being absolutely correct, or have only a *plus* or *minus* correction of one-tenth in one place. The following is the substance of a yellow certificate:—

> This certifies that clinical thermometer marked No. 199,605 has a fixed zero-point, having been subjected to thorough seasoning before scale was engraved, and will not contract or increase its readings above any point called for by the corrections of this certificate.
>
> TAYLOR BROS. CO.

Thermometer Reading.	Correction.
95°	– 0°
100°	– 0°
105°	– 0°
110°	– 0°

The next series, bearing the blue certificate, has two or three corrections of one-tenth degree, and all the rest of the thermometers which are reliable bear the red certificate. The whole scheme is admirably described in a little pamphlet which the company are now offering to our subscribers, and which contains figures of the various kinds of thermometers offered. Those who are interested should drop the company a postcard to the Hatton Garden address for a copy of this pamphlet. We may say that the prices of the highest-grade thermometers range from 27*s*. per dozen upwards, the second grade from 20*s*. a dozen, and all the third grade from 15*s*. 9*d*. per dozen. The thermometers with chain and safety-pin for attachment to the dress are especially worth the attention of retailers.

Recent Patents.

THE following are abstracts of complete specifications recently published, of inventions for which letters patent have been granted. Money order offices sell postcards, price 8*d*. each, which, on filling up with the number and year of the patent and posting, secure a copy of any complete specification.

Safety Matches.—C. Aldridge, oilman, Edgware Road, W., obtains protection for improvements in safety matches. The improvement consists of tipping both ends of the match with an ignitible composition. (17,961, 1899.)

Glove-cleaning Composition.—Lydia Taylor, Niton, patents a glove-cleaning composition made by mixing equal parts of soft soap and powdered fullers' earth and reducing to a paste-like consistency with spirit of turpentine. (14,448, 1899.)

Seltzogene-charges.—Sidney Brown, Caffyn Street, Lambeth, claims for the admixture and consolidation of materials hitherto only used in separate form for charging gazogenes and seltzogenes. Tartaric or other acid is mixed with bicarbonate of soda in atomic proportions, and formed into a solid tablet of "globular, spherical, cube, or lozenge form" by great pressure. (18,473, 1899.)

Varnishing Aluminium.—O. P. Nauhardt, Paris, claims for a method of protecting the metallic surface of aluminium. The varnish used is of great adhesive strength and unalterable, and is prepared by heating 100 parts of gum lac with 300 parts of liquid ammonia on a water-bath for one hour. The surface of the aluminium is cleaned with potash, dried, and, after applying the varnish, again dried in a drying-oven. (14,686, 1899.)

Solidifying Spirits.—R. Fallnicht, Altona, Germany, procures protection for the following method of solidifying spirits:—A solution of caustic soda is made by dissolving 1 kilo. NaHo in 2 litres of water, and 3 kilos. of this solution is mixed with 5 kilos. of spirits heated to 65° C. Five kilos. of stearic acid is added, and the 8 kilos. of soda-spirit poured in with constant stirring. Ninety-five kilos. of spirit is then added. (15,030, 1899.)

Driving Vermin Away.—E. Dowie and the Faramel Manufacturing Company, McGill Street, Montreal, have patented the following composition, which, from its intense irritating and burning qualities, effectually prevents rats and other vermin from again invading those places where it has been sprinkled:—

Chili pepper	20 per cent.
Hellebore	5 per cent.
Pulverulent base (such as white char or ash of anthracite coal) ...	75 per cent.

(16,378, 1899.)

Greenhouse Fumigant.—T. Smithson, Bristol, claims for the following:—

Tobacco or snuff waste	100 parts
Cayenne pepper	4 parts
Oil of capsicum	⅓ part
Asafetida	6 parts
Hellebore	10 parts
Sago-flour	4 parts
Saltpetre	22 parts
Cascarilla	5 parts

Mix and mould into biscuits.

To use them they are burnt in the greenhouse with closed doors. (14,590, 1899.)

Advertising for Druggists.

By Six and Sixpence.

"To be successful in business *you must* advertise."

HAVING been successful in working up a business from 6*s*. 6*d*. worth of stock to 23*l*. a week in twenty-six months, some of my schemes and advertising-ideas may be of use to others whose businesses are dragging, or who stand hesitating as to the best means to advertise cheaply and effectually.

Undoubtedly the best means of advertising are the handbill, shop-window, and the price-list. As the last is an item which I have previously written about, I do not purpose dealing with it in this article, but to confine myself to handbills and shop-window advertising.

The handbill, as a connecting-link between the retailer and the public, is most valuable. It gets into holes and corners where the posters or sandwichman never penetrate —*i.e.*, if your bill-deliverer may be depended on. Of all the handbills delivered, the question is, How many are read? In my opinion it depends on the handbill. Strike out in a different way from any of your opponents, and the bill will be read. If you follow in the old beaten track it will not. A handbill, to do its work, must be pithy, straight to the point, not wearisome, and, if necessary, witty. Everyone is familiar with the stereotyped announcement of this character:—

> "W. Blank begs to thank the clergy, gentry, and inhabitants generally for their past support, and trusts they will favour him with their patronage in the future."

Is this any use? How many of the people who receive these bills have supported Blank in the past, and how many new customers will come to him in the future? Perhaps there might be a gain of five in a population of 10,000. The great and gullible British public must have their palates tickled by a succulent bait ere they will rise to it.

Granted a chemist has a new remedy to introduce to a suffering people, and, in his generous way, is anxious that they should participate in his joy over his discovery, then comes the all-absorbing work of drawing up a handbill suitable. First, decide on the name of the preparation, then make up your mind that you are to be agent only for it—*i.e.*, if you want to sell in quantity. Is your name Smith? Then christen your preparation "Jones's." This savours of underhand work, but it is the method adopted by stores and hundreds of manufacturers of patent medicines. It is advisable, because you can throw heart and soul into recommending the remedy, and the customer is not so suspicious of your good intentions as he or she would be if it was labelled with your own name. The usual method in advertising is:—

A Sovereign (wonderful, marvellous, or celebrated) Remedy.
After years of assiduous study (or labour),
W. Smith, Chemist, Dulltown, has
Perfected a remedy for the immediate relief and permanent
Cure of Rheumatism, Lumbago, Sciatica, &c.,
Absolutely harmless to the weakest constitution.
Price, 2*s*. 9*d*. per bottle.
To be obtained only from So-and-So.

My idea is:—

War! War!! War!!!
The atmosphere is full of it.
First we prepare for France, then we settle the Soudan, and now we are busy in the Transvaal.
War—fearful and horrible—is on everyone's lips.
We have declared war against rheumatism, &c., and are prepared to fight to the bitter end.
Nor shot, nor shell, nor Gatling guns do we require.
Our ammunition consists of one
2*s*. 9*d*. bottle of Jones's Indian Specific.
First three shots the enemy wavers, next three in full retreat.
Thirty-two shots, or one bottle, absolute destruction.
No capitulation.

Do you go in for Christmas advertising or for commemorating your commencing in business? If so, the following idea is good, and was the means of introducing many new customers to my shop.

I designed a handbill after the manner of a draughtboard, excepting that there were no black squares, and on each square I put the name of some proprietary article, with its use and price. Nearly at the end of the bill I made an error in spelling purposely. At the head of the bill I inserted:—

> In commemoration of our second anniversary, we are giving away 30*s*. in cash prizes. Somewhere on this handbill there is a word spelt wrongly. Find it out, and write it on a slip of paper with your name and address. Bring it in on or before ——, 1899. The papers will then be placed in a box and well shaken up, and to the first thirty we will give 1*s*. each for their trouble.

I sent out 2,500 papers, and received 586 guesses, so that I had the satisfaction of knowing that that number of people had waded carefully through some sixty-four squares of matter.

Another idea for the winter evenings was to make the most dictionary words out of "Blank's Drug Store." I gave 10*s*. in ten prizes to those whose lists were most complete, and 5*s*. in five prizes to the neatest written. Although my name has but two syllables, some of the competitors made 220 words out of the three words. As I threw this open to all comers, I had 1,140 papers handed in out of a population of 13,000.

So many chemists are still inclined to look on their business as a profession which should not be lowered in the eyes of the public by any advertising means or schemes that I take it for granted that some of them will think these ideas childish in the extreme, and only fit for 1*d*. journals. But the glory of the chemist has departed, and everyday folk do not look on the glowing carboys with so much awe as they used to now that the pruning-knife of the company-cutter is at work, and the only way to get the people in from the highways is, as of old, "to compel them to come in," either by giving something for nothing and trusting to it returning or by catching the eye by means of a striking advertisement.

One of the best handbills I have used lately was designed by a printing-firm, and is appropriate on account of the present war. Here is a rough draft of it. The design is registered:—

TO THE FRONT.

Here figure
of a
bugler.

THE WARm weather has gone, and winter has come with its cold winds, fogs, and frosts, and no matter how careful you may be you are sure to catch a cold without going fishing for it.

"Oh, it's only a cold!" you say, but if you neglect it you'll find there'll be

A HARD BATTLE

to fight before you get rid of it. But you need not despair even then. There is a grand remedy which is already at the front, and which will give you relief at once, no matter how stubborn your cough may be. If you try it you'll have the satisfaction of seeing

THE ENEMY ROUTED!

This remedy is easily procured. It is sold in bottles of sixteen doses for 6*d*., and four times the size for 1*s*. 9*d*., at

Blank's, Up Country.

The preparation is (here insert name of preparation).

A good idea in advertising is to hit on some catchy phrase and stick to it. Pears' soap will always be associated with "You dirty boy"; Keating's cough-lozenges with "Along the line the signal ran, 'Don't cough'"; Bovril with "Alas! my poor brother"; and you might just as well coin some sentence, and so make everybody think of your name instinctively when they hear this phrase. A few which occur to me are, "Is your name Smith?" "Line your chest for the winter," and "Smith's drugs are pure."

Have you ever had the whole of the footway, roadway, and the opposite side of your road or street packed with people (disorganising traffic), with their heads craned to see your shop-window? If you have not, I have, and this is how it was done. At Christmas, 1898, which was about a year after opening, I was desirous of making a stir. After deliberation, I decided on offering 30*s*. in cash prizes, to be divided amongst those who should nearest foretell the time that a gigantic candle, which I showed in my window, would burn. All entries were free: first prize, 5*s.*; four prizes of 2*s.* 6*d.* each; and fifteen of 1*s.* each.

I billed the town well, and in the presence of a fairly large crowd lighted the candle punctually at 5 P.M. on a Friday night. To kill time people read and re-read every label on the various preparations shown in the window, until at about 11 o'clock, seeing the candle was likely to last all night, the people dispersed. As soon as it was morning they were there again, and the excitement became greater and greater, until about 6 P.M. on Saturday night there was about ½ inch of candle left. The crowd had by that time assumed large proportions, and the police were continually moving the folk on. Right across the road was a sea of heads, and all of them with their mouths open, wildly gesticulating, until at last the candle flickered and went out. Then came a roar from the crowd, "It's out." I registered the time—25 hours and 22 minutes—and out of over 800 guesses there were some who had guessed very near to the time. I had threats from the police for obstruction, but as I told them I should be very pleased if they would proceed against me, as it would be a real good advertisement, I heard no more of it.

The great art in window-dressing is, as every business man should know, to show goods and to sell them. From some of the windows which I have noticed, I think their owners imagine that a window-case is a sort of repository for all the soiled shop-stock and general odds and ends which they are ashamed to see in their shop. It cannot be too much emphasised that scores of intending customers are turned away from a shop because of the slovenly windows. Surely medicine is nasty enough without it being also unsightly. Did you ever see a stores-window other than bright and attractive? It is the light that attracts the moth.

A much-debated question is, Is it better to fill a window with one speciality, or with a few of each? My experience teaches me that the whole of a window devoted to one article will sell more of that article in a fortnight than fifty medley windows would sell in fifty fortnights. If this is not so, why do such keen business-firms as Crosfields, Erasmic, Maypole Company, Frog, Ivory Soap Company, and others make so much fuss about hiring the whole of a window, or none at all? It is the uniformity that catches the eye, catches the fly, and catches the *£ s. d.*

I have had window-shows and always found them pay, but even in window-shows there is a season for the article shown. It is useless to show cough-mixtures in the summer, or health-salt or soap in the winter. Showy labels and clean stock are imperative. Assorted coloured cartons are always obtainable at a low cost, and as one is always able to enclose handbills in them they soon pay for themselves.

With regard to letting the window off to another firm I have not much to say, excepting this: if they think your window is worth 10*s.* a week to them, added to the cost of the drapery, what must it be worth to you!

Ether Inebriety.

According to the *Hospital*, the habit of ether-drinking is the direct result of a temperance crusade. In 1838 Father Mathew began to preach total abstinence in Ireland. Within three years five millions of his fellow-countrymen had joined his banner and pledged themselves not to touch alcohol. In Great Britain and America the success of his campaign was equally great. But it happened that between 1842 and 1845 some converts residing in the village of Draperstown, in County Londonderry, missing their accustomed stimulant, asked a local medical man to give them something which, while not violating their vow of abstention from alcohol, would relieve their craving for it. He gave the applicants 1 dr. of ether in water. The habit spread, till in some of the neighbouring places there was a shop for the sale of ether for every 23 of the population. From that time until now the habit of ether-drinking has gone on in that part of Ireland, and men and women, young and old, are alike its victims. There is no doubt that in some parts of Ireland ether-drinking takes place, but our contemporary, we think, exaggerates the extent of the evil.

Legends of Old Paris Pharmacy.

By an Occasional Contributor.

NEW YEAR'S DAY found me in Paris once again, and I called on my pharmacien friend with whom I had such an interesting ramble last Jubilee day. New Year's Day is a holiday in France, as in most other countries except England. "I cannot take you round pharmacies this time," he said, "but I have not forgotten your request, and if you want any more anecdotes of Paris pharmacy, I have a few to tell you."

How Absinthe was Introduced.

"But let me offer you an *apéritif*, as you are going to stop to dinner. Will you join me in an absinthe?"

Absinthe always reminds me of cough-mixture in alcohol, but I knew my friend's weakness, and I declared I should be charmed.

"And to think there are people who despise and call it poison!" he declared. "That idea was exploded a century ago by a pharmacist. Did you ever hear the tale?" I confessed I had not. "It was just after the Great Revolution that the 'constitutional priest' who officiated at the chapel of the Hôpital de l'Ouest (the building in the rue de Sèvres, near the Bon Marché) felt unwell after celebrating Mass, and accused the head sister of having put poison in the chalice. The committee of the Bonnet Rouge (now the Croix Rouge) district seized the flagon and handed the wine to Boudet, the pharmacist, for analysis. He found that it contained pure absinthe, which was then only used for medicinal purposes. He added, however, that, so far from being a poison, it purified the blood and cleared the stomach. This remarkable statement drew attention to the new liqueur, and ever since it has been popular in France, now enjoying the worst of reputations."

"And the priest?"

"He recovered, of course, and was doubtless all the better for his dose, possibly a little strong for an abstainer just at first."

"Lucky for the sister, as our Red Bonnet friends could hardly be classed among the opponents of the death penalty."

"Quite so."

A Tale of the "Terror."

"You know that Anglo-American Pharmacy in the rue St.-Honoré, close by the rue St.-Florentin? The proprietor (Follope was his name) was guillotined at the time of the Reign of Terror. He had let one of the upper floors of the house—the same old building as you see to-day—to a naval officer named Heron. This lodger turned out to be a very shady character, and narrowly escaped imprisonment for embezzlement. I never learnt that Follope did his lodger any harm, but probably he did not hide his opinion of Heron's past. At any rate, Heron denounced him to the Comité de Salut Public as having received and concealed silver plate belonging to proscribed aristocrats, and the unfortunate pharmacist got short shrift, like most 'suspects' in those days."

"But as a rule pharmacists are recognised to be peaceable and worthy citizens, and escape the effects of revolution, even in Paris?"

"Usually, but not always. The Communists executed a pharmacist on even more slender grounds. You know the rue Richelieu, between the Palais Royal and the Grands Boulevards?—No. 44 is still a pharmacy.

During the Semaine Sanglante,

in May, 1871, while the Versailles troops were storming Paris street by street, and the Communists were daily defeated, and consequently desperate, some boys were tearing down scaffolding next door to the pharmacy to help to make a barricade. The owner of the pharmacy, M. Koch, threatened to pull the ears of the young mischief-makers. Some of the Communist guards close by heard him; he retreated into his parlour, and taking up a phial, his only weapon, threatened to throw its contents over the first who approached. 'It's prussic acid; he wants to blind our children,' cried the crowd. Koch was mobbed, seized, bustled, and dragged before the Secretary-General of the Comité de Salut Public. When he arrived in the Salle des Maréchaux at the Tuileries, where the court-martial was held, he was exhausted and speechless. He was promptly condemned to death, together with three passers-by who had sympathised with him. The four men were placed in front of the Pavillon de l'Horloge (you may remember the old central tower of the Tuileries; it was burnt a day or two afterwards). Koch was not killed at the first volley, and tried to escape; but a Communist pursued him, and finished him off."

"Was an effort not made by his neighbours to rescue him?"

"Yes; some of his friends went at once to the Hôtel de Ville, and Delescluze gave them a letter to Ferré: 'Please liberate Citizen Koch, pharmacist, who is going to open an ambulance Paris, 3 Prairial,* LXXIX.—Ch. Delescluze.' But before they could get this countersigned at the Prefecture of Police the execution had been carried out. I also heard that another pharmacist, somewhere near the Pantheon, was shot, and his officine destroyed, because he refused to show the Communists where his petroleum was stored; but I haven't his name. Koch's executioners were tried at Versailles."

This savagery is in direct contrast with the experiences of the late Mr. Swann, who, during the Paris Commune, by treating the apparently bloodthirsty Communists with a little tact, found them easily managed, and even grateful for small services.

A Revolutionary Pharmacist.

"On May 1, 1871, the Commune, on the proposition of Citizen Miot, decreed the formation of a Comité de Salut Public. Rochefort, in the 'Mot d'Ordre,' speaks of Miot as a pharmacist. But strict exactness is not the chief failing of our friend Rochefort, who has the peculiarity of seeking shelter in London when he is attacked in France, and of attacking England when he is able to reside in Paris. The following, however, is Rochefort's way of describing Miot:—'The ex-pharmacien goes perhaps a little far. Head-chopping is not pharmacy, but surgery in the first degree, and surgery has for the moment quite enough to do in the ambulances.' I have heard also that various pharmacists were forced to help the Communists to manufacture bombs and projectiles during the time Paris was held against the Versailles troops, but those are incidents which most people concerned like to forget, or, at least, dislike to talk about."

"And in the other revolutionary epochs—1830 and 1848?"

"A little monument, erected in the grounds of

The Old School of Pharmacy,

in 1831, and since removed to the garden of the present school, commemorates the fact that three pharmaceutical students, Ader, Simonneau, and Montserrat, were killed during the 'Three Glorious Days' of 1830, when Charles X. fled from Paris. In 1848 the insurgents came to the School of Pharmacy and demanded gunpowder. The old porter in charge naturally professed his inability to produce explosives, and as the regular troops arrived just at this moment, his assailants decamped as they saw the soldiers scramble over the wall."

"Much to his satisfaction, no doubt?"

"Not exactly; for the soldiers, hot from storming a barricade, insisted that the porter was himself an insurgent who had not been sufficiently active to escape with his comrades. They called upon him to give the names of his accomplices, and held a loaded musket to his head for a quarter of an hour. The poor old fellow never got over the strain, and lost his memory owing to the shock he had received. M. Planchon, the Director of the School, in his recently completed work, has treated the history of the school very completely."

"But the old pharmacies themselves?"

"I think you saw most that was interesting last time, but there are one or two details that may interest you. For instance, the first

Registration-office for Pharmacists' Assistants

(it was called the 'Bureau des Apothecaries') was inaugurated in 1714, and was opened every morning in the rue de la Huchette, an old street at the sign of the Lamprey. There were no numbers to the houses in those days, of course. Apothecaries' assistants usually also registered themselves at the grocers' bureau in the rue de l'Aiguillerie; for you know that here, as in London, the apothecaries and grocers were linked in the same corporation for a long time. In those days this was quite a good quarter of Paris—Lemery, the apothecary, was in the rue Galande close by, and Nicolas de Blegny (a perusal of whose 'Livre Commode' for 1692 I would recommend to anyone who fancies that puffing 'patents' is a modern art) had his officine in the rue Guénégaud."

"But all these sites have now been changed beyond recognition."

"Yes, 200 years is a long time, especially in a busy city of modern street improvements like Paris. (One has to go underground for relics two centuries old.) I dare say you saw there was an interesting 'find' of an old pharmacy (probably of the seventeenth century), with all its utensils, in the rue du Plâtre, in the Temple district, during some recent excavations. There is, however, a curious old house in the rue St.-Honoré, where, it is claimed, medicaments have been sold for over 400 years. It is stated to have existed in 1598, if not earlier, under the sign of St. James's Staff ('Bourdon St. Jacques'), but since the Revolution the sign has been altered to

The Golden Staff.

Many curious legends hang around this quaint old gable, if we may believe one of its former proprietors. Standing only a short distance from where King Henry IV. was stabbed (like Carnot) in his state-carriage, it is just possible that the owner may have been called to assist the Royal patient—uselessly, of course. Molière, who lived close by, is said to have frequented the pharmacy, and Cardinal Dubois, Prime Minister of France during the regency of the Duke of Orleans, is supposed to have been an assistant there in his youthful days. Clerambourg then owned the officine, and a curious legend is told of how he received in later years the visit of the Cardinal, who himself mixed (in a silver mortar, which was preserved by the late proprietor) a certain pomade of secret composition, which became very popular at Court. Another tale is told of how Delondre, one of his successors, endeavoured to save Georges Cadoudal, the Royalist conspirator of a century ago."

"Very interesting legends, which doubtless rest on no historical foundation?"

"Possibly. And the historical proofs of the existence of William Tell, and a thousand other histories? These legends of the Golden Staff may be but legends, but I can never pass the quaint old house without thinking of them, just as people go to see the country of Lorna Doone or Jeanie Deans. But the other tales I have told you are reliable enough; perhaps this is just why they seem less interesting."

A tap came at the door, and "Monsieur est servi" was announced by a neat little *bonne*. My friend's interest in pharmaceutical legends disappeared on sniffing the appetising odour from the kitchen, and we entered the dining-room to sample French cooking and discuss its merits.

Calmin is a mixture of antipyrin and heroin, and is claimed to be useful in whooping-cough, asthma, bronchial catarrh, &c.

A Manual of Pharmaceutical Testing, by Barnard S. Proctor, F.I.C., gives such directions for testing as will show the quality of pharmaceutical chemicals with such reagents and appliances as are to be found at the dispensing counter. The object of the author has been to enable the pharmacist in the simplest, speediest, and most inexpensive way to be able to decide whether an article is fit for use.—*British Medical Journal.*

Food-preservatives. — The *Lancet* points out that in prosecutions for adding preservatives to food it is impossible for a magistrate to express a positive opinion as to whether a certain preservative is injurious to health or not. When it is seen from the reports of the Government Committee how the question is trying to the utmost the abilities of all leading experts, it would be better to suspend such prosecutions till some definite conclusions are arrived at.

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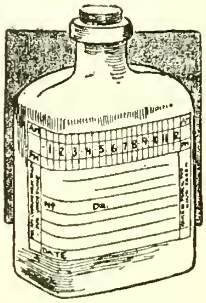
* May 23.

Practical Notes.

A Check-label.



The label shown in the accompanying illustration has been introduced in America. The label is designed to prevent errors and form a record for the inspection of the physician. It shows how many doses have been taken, and at what time. When each dose is given a mark is made in the space opposite the proper hour, so that a glance only is necessary to show when the next dose should be taken.

Camphorodyne.

Lieut.-Colonel H. St. Clare Carruthers, I.M.S., supplies the following formula for camphoradine, or camphorodyne, mentioned in the B.P. draft Addendum:—

A.

Camphor in powder	1 oz.
Chloroform	2 oz.
Oil of peppermint	4 dr.
Tincture of cannabis indica ...	2 oz.
Tincture of capsicum	1½ oz.

Mix.

B.

Hydrochloride of morphia	32 gr.
Dilute hydrochloric acid	4 dr.
Distilled water to	1 oz.

Mix the acid with the water and then add the morphine, and dissolve by the aid of heat.

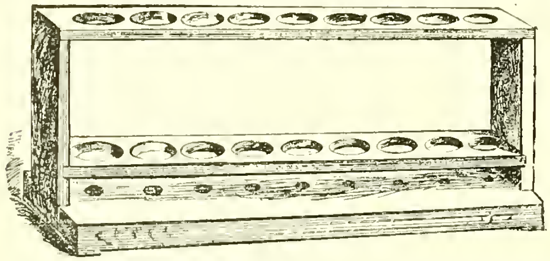
C.

Dilute hydrocyanic acid	1 oz.
Mucilage of acacia (B.P.)	1½ oz.
Treacle	5 oz.
Syrup (B.P.)	a sufficiency

Put 5 oz. of treacle into a clean bottle, add the mucilage and dilute hydrocyanic acid, then add B, and, lastly, A. Shake well, and add syrup to make 16 fl. oz. Dose—from 15 to 30 minims.

A Test-tube Stand.

The test-tube stand here figured has been designed by Mr. E. Chas. Blake, lecturer on practical chemistry at the School of Pharmacy, Brisbane. We have had one for a few months, and it has decided advantages over the ordinary form of test-tube stands, which have several disadvantages. In some the tubes fall out, and, when draining, leaving a small pool of water which takes some time to dry up. If fitted with pegs these are liable to come out or get broken, and they transfer to the wet tube the dust which has collected on them; moreover, the tubes take a considerable time to dry. In Mr. Blake's rack the tubes cannot slip out, and, when inverted, they drain and dry quickly. The reason of that is that the stand has a false bottom about half an inch above the base. This additional support is pierced with holes smaller than the diameter of the tubes, so that when inverted the tubes drain quickly. It is a clever idea and an effectual improvement. Mr. Blake does not say whether he has patented it or not.



There are in Belgium 3,318 doctors, and 1,930 pharmacists. Most of the pharmacists are located in the towns.

The Oleo-refractometer.

By Edwin Dowzard, F.C.S.

Within the past few years the refractive index has been brought forward as a test for oils and fats, &c. Although Amagat and Jean's oleo-refractometer does not allow of the scientific determination of the refractive index of a substance (being possessed of an arbitrary scale), yet it is capable of furnishing valuable information in a short space of time. One great disadvantage—in fact, the only one—is the use of a standard oil (*huile type*). I have found different lots of this oil to vary to the extent of four divisions. When we remember that all samples of oils, &c., are compared with this standard, the fault will be seen to be a very great one. It shows carelessness on the part of the inventors of this otherwise valuable instrument that they have not given the users some fixed, unchangeable standard by which they might check the standard oil.

I have found that chemically-pure glycerin may be conveniently used to check the standard oil. Glycerin of sp. gr. 1·2548 (15·5° C.) should register zero on the scale, when compared with the standard oil in the oleo-refractometer (both liquids being at 22° C.). The following table gives the sp. gr. of glycerin at 15·5° C., compared with the refractive figure at 22° C.:—

Refractometer Figure, 22° C.	Sp. Gr. at 15·5° C.	Refractometer Figure 22° C.	Sp. Gr. at 15·5° C.
− 16	1·24872	+ 2	1·25556
− 15	1·24910	+ 3	1·25594
− 14	1·24948	+ 4	1·25632
− 13	1·24986	+ 5	1·25670
− 12	1·25024	+ 6	1·25708
− 11	1·25062	+ 7	1·25746
− 10	1·25100	+ 8	1·25784
− 9	1·25138	+ 9	1·25822
− 8	1·25176	+ 10	1·25860
− 7	1·25214	+ 11	1·25902
− 6	1·25252	+ 12	1·25940
− 5	1·25290	+ 13	1·25978
− 4	1·25328	+ 14	1·26016
− 3	1·25366	+ 15	1·26054
− 2	1·25404	+ 16	1·26092
− 1	1·25442	+ 17	1·26130
0	1·25480	+ 18	1·26168
+ 1	1·25518	+ 19	1·26206

The sp. gr. of pure glycerin may be determined with very fair accuracy by using the above table. To illustrate the method of checking the standard oil, the following example is given (by using the table, any glycerin having a sp. gr. between 1·250 and 1·260 may be used; it is not necessary to use glycerin having the sp. gr. 1·2548):—

Example.—Sp. gr. of a sample of pure glycerin at 15·5° C. = 1·2602; refractometer figure of the same glycerin at 22° C. = + 12.

On referring to the table we see that the sp. gr. of glycerin registering + 12 should be 1·2594:—

$$\therefore \quad \frac{1{\cdot}2602 - 1{\cdot}2594}{0{\cdot}00038} = 2{\cdot}1.$$

0·00038 = difference in sp. gr. for one division.

We would then have to apply a correction of + 2 (as it is difficult to read to less than 0·5, tenths may be disregarded) to the + side and − 2 to the − side of the scale. For instance, if a sample of almond oil registered + 7, the correct figure would be + 9, and if a sample of sperm oil registered − 14 the correct figure would be − 12. I find that undoubtedly pure samples of medicinal cod-liver oil give figures between + 43 and + 45; seal oil, which is extensively used to sophisticate cod-liver oil, gives figures not varying far from + 32.

Correspondence

TO CORRESPONDENTS.—Please write clearly and concisely on one side of the paper only. All communications should be accompanied by the names and addresses of the writers. If queries are submitted, each should be written on a separate piece of paper. We do not reply to queries by post, and can only answer on subjects of general interest.

About the Alkaloids.

SIR,—I should understand the statement that "morphine is excreted unchanged," to mean that a portion of the morphine which has been introduced into the system may be so excreted. That is quite correct, as applied to larger doses, at any rate, and particularly if the morphine has been given hypodermically. If the statement were meant to imply that morphine undergoes no change in the system, then it would be contrary to the results of researches on the subject, and contrary to the plain probabilities of the case. Morphine has been shown to exercise an influence on the oxidation of the blood, and one investigator at least has shown that morphine is oxidised in the body. It seems most likely that the morphine which is "excreted unchanged" is that portion which has not done its physiological work.

Yours very truly,
Edinburgh, January 23. D. B. DOTT.

Liquor Bismuthi.

SIR,—The relative neutralising-values of the materials for preparing the above, if expressed in cubic centimetres of volumetric normal solutions, are (according to B.P. requirements) as follows:—

	Gms.	C.c.	
Nitric acid (50· c.c.) ...	71· × 11·1	= 788·	= 1019· c.c.
Ditto, in oxynitrate ... (0·30264 = 1· c.c.)	$\frac{70\cdot}{\cdot 30264}$	= 231·	
Potassium citrate ...	70· × 9·7	= 679·	917· c.c.
Potassium carbonate...	20· × 11·9	= 238·	
Potassium carbonate...	... ...	8·57 =	102· c.c.

The impurity in potassium citrate (made from subcarbonate) is not merely moisture, but sulphate, &c.; and if $K_3C_6H_5O_7$ – 304·11 = 302·64 of $BiONO_3H_2O$, how could 70· equal 70·?

Commercial oxynitrate contains more Bi than the official formula, and therefore requires more citric acid.

Besides, our aim was to furnish a practical working formula adapted to any quality of materials commonly met with, without any preliminary purification. Confident that it will be found to be satisfactory by anyone who gives it a fair trial, we do not wish to further occupy your space with theoretical arguments. Yours, &c.,

R. C. COWLEY.
Liverpool, January 20. JOHN P. CATFORD.

The Minor Examination.

SIR,—The beginning of another century is upon us, and still the Minor student bears his burdens unredressed. He spends at least three years in a pharmacy, where he hears practically nothing of botany, chemistry, materia medica, or physics, and yet, after a six-months' hurried grind, he is expected to prove himself efficient before his examiners in all the subjects, both theoretical and practical, at one sitting, and failure in one subject of either branch entails failure in all, and re-examination in the lot. Is this a hardship? Certainly; and this is evidenced by the deplorable percentage of failures year after year, a proportion so large that it is doubtful whether it is equalled by any other examining board in any branch of knowledge.

Long experience must have proved that more is required of the candidate than either he is capable of assimilating or of his memory retaining in the short time at his command.

Compare the condition of the pharmaceutical with that of the medical student. The latter individual, though compelled to devote five years to incessant attendance upon lectures, demonstrations, and practical work, is allowed to take the final examinations of the Royal Colleges of Physicians and Surgeons of England, Scotland, and Ireland, and also the Society of Apothecaries, one subject at a time. Even some of our universities simplify their medical Finals by dividing them into two parts. Compare Cambridge, Victoria, and Aberdeen.

But this is not the only grievance. There is another that wants a little consideration. It is the principle of rejecting a candidate without giving him anything like a fair chance of displaying his knowledge; as, say, plucking a man because he does not get out some portion of his practical work. In every case, such a student should be allowed to proceed to the *viva voce*, so that the examiner may be able to determine whether the error was the result of a slip, or real ignorance; for surely the object of an examination is to ascertain knowledge and not slip and accident. In my wanderings through the London Royal Colleges, Hall, &c., I always found that my examiners aimed at discovering what I knew; certainly I was never pounced upon, rudely called to book, and left in a state of bewilderment, as is too frequently the case in the Minor, especially during practical work.

One hopes that, with the advent of advanced fees, some of these disabilities may be removed. At least let the student have two examiners in each subject, one to mark while the other questions, as is the case in all medical examining bodies, and thus spare the candidate falling to the peculiarity of a single examiner.

Sheffield, January 22. ROBT. B. GREAVES, M.B., B.S.

SIR,—I have been much interested of late in perusing your observations (as well as the observations of others) *re* "The Division of the Minor," and I am sure you deserve the hearty commendation of all would-be candidates for that examination. "Fair play is a jewel"; I have myself attempted it of late, and can honestly speak from experience. I got through the first day several times, but I attribute my non-success to the multiplicity of subjects (taking the examination as a whole). If a man has once got through his first day's work creditably, but not his second day, why, when he next appears on the scene of action, should he have to face the ordeal of the first day's work again, having got credit for the same at his previous attempt? I consider it a great wrong, and an inexcusable piece of gross injustice to the candidates. Besides my own case, I came across several instances at the London College where I coached, pointing to the great hardships some students had to contend against. I knew one student who presented himself six times, getting through on each occasion first day, but, of course, not his second day; on his seventh attempt he came down on his first day, and his non-success, I have not a shadow of doubt, was attributable to the same cause as my own. I knew another student who came down on what they call the "aggregate" three times in succession (only one mark required on each occasion to put him through). I knew two other men who have made ten attempts, and who, in each case, perchance, have got through the first day two or three times in succession, then come down first day at the next attempt, and so on.

My contention is, to put it briefly, that if in the Minor examination a candidate succeeds on his first day, but not his second day, when next he presents himself he should appear for the subjects which are included in the *viva voce* portion of the examination only. Secondly, why should not the Minor, on the second day, be a written examination like the Major? It would enable candidates to be cool and collected, and would, in a great measure, allay that worry and apprehension, which so often play indescribable mischief amongst candidates, of having to face so many examiners, and prevent them giving too hasty answers to the questions. In other words, it would give them more time to "think out" for themselves the questions put before them. The article in your journal respecting Professor Leech's opinion, also Mr. Druce's, and the paragraph especially of December 30, are really worthy of the gentlemen who uttered them, and they deserve hearty congratulations from the large number of unfortunate individuals more directly concerned. As stated in your number of December 30, the examination should be conducted like some of the medical examinations, "that a candidate should be turned back on his weak subjects only," which I am thoroughly in accord with if applied to the Minor.

As one who has served his "pill" I can speak with some amount of experience, and I can honestly assure you, Sir, it has cost my friends a heavy financial sacrifice (which was solely devoted to the object I had in view), and which will take me many years to recoup. It must be evident to you that I can speak with some amount of feeling in the matter. If the articles which you have so forcibly, and in no unmistakable language, written of late bear fruit, which I believe they will, you will confer on those like myself a favour which will be inestimable in its value.

I did not intend to extend these remarks to such great length; there is only one other matter to which I will refer. Some members of the Council in the past have been growling in different places because more of the craft do not join the ranks and hand in the proverbial guinea. For those in business I cannot answer, but, I would ask, is the Society holding out encouragement to the coming generation of chemists by placing across their path such gigantic objects of obstruction, against which they have to contend and if possible surmount?

Yours faithfully,
Minor Candidate. (228/46.)

Minor Results.

Sir,—Could you oblige your readers, when giving the names of those who have passed in the Major and Minor examinations, by giving their addresses? We would then know where they live, and thus have the chance of occasionally writing to congratulate an old friend. In the Preliminary examination name and address are given: why not in all the three examinations?

Yours very truly,
W. B. (240/19.)

[We would be pleased to do so, if the Registrar under the Pharmacy Act, 1868, would supply us with the addresses.—Ed.]

Chemists and Fictionists.

Sir,—Surely Mr. Reid is disquieting himself in vain. Other callings, as "Xrayser" reminds him, are (or have been) made the butts of small wits, much more persistently than ours; and, as regards most of them, it is certainly not true that it is not the class, but individuals belonging to it, at which the wit is aimed. "From doctors, lawyers, and parsons, good Lord, deliver us!" Chemists, at any rate, have never been included in this popular litany. Has Mr. Reid never, in the course of his "fictional" reading, met with "Sawyer, late Nockemorf," or any other "Sawbones"? Has he not heard of the epitaph on John Strange, solicitor: "Here lies an honest lawyer—that is, Strange"? Or of the description of another lawyer as "a professing Christian, but a practising attorney"? I might multiply such queries a hundredfold. But, says Mr. Reid, these professions have been also heroised, and ours has not. This, however, only shows the limits of Mr. Reid's excursions into fiction. Some years since I sent a list to the *C. & D.* of several very fine and even noble characters which well-known living "fictionists" (hateful word!) have portrayed as wielders of the pestle. Two only I need refer to here—one of them figures in a delightful story of Mrs. Margaret Deland's, and is the titular hero of another of her works; the other is the finest male character ever drawn by the delicate and distinguished art of Mr. Frederick Wedmore. After this it is somewhat foolish to squirm under the jokes of a professional humourist like Mr. Anstey, or the satire of a mere romancer like Marie Corelli. I venture to remind Mr. Reid of the blacksmith's reason for allowing his wife to beat him—"Well, it pleases her, and it doesn't hurt me."

Yours, &c.,
Epworth, January 19. C. C. Bell.

Chemists and their Customers.

Sir,—Already this decision is having a bad effect, as note label attached taken from customer's bottle [an ordinary label marked "Not P.B."]. Mr. —— [the chemist whose name is on the label] is an old-fashioned chemist, and scorns to do a cutting-trade, but evidently does not scorn to do the customer. I have always understood that the B.P. was the standard for excellence, and one which we should have to accept in regard to drugs, chemicals, and preparations mentioned therein. I was trained conscientiously to do the correct thing always, "and then you had no fear of inspectors." I have ever since made all B.P. articles correctly, and have even remonstrated with my masters if necessary.

Yours faithfully,
Kreat. (19/00.)

[The Sale of Food and Drugs Acts provide for notices on mixtures of food or drugs with "any ingredient not injurious to health, and not intended to fraudulently increase its bulk," and the label must state that the article is mixed, so that a label of the kind referred to by our correspondent does not meet the requirements of the Acts. A little reflection will show how absurd this attempt to get behind the Acts is. Presumably the retailer does not wish to say, "This is a mixture of lime-water prepared according to the British Pharmacopœia with a harmless ingredient" (water or lime). "Not P.B." is not an equivalent of that, and if the British Pharmacopœia is the standard for lime-water (as has been held by the Courts), retailers should either insure that the lime-water they sell is B.P. strength, or give their customers verbal notice that the strength cannot be guaranteed, or print such a notice as we have indicated.—Ed.]

To Dispensers.

Sir,—I would ask any past or present public or Poor-law dispenser who has not yet received a copy of the rules of the Public and Poor-law Dispensers' Association to communicate with me or to attend our next meeting, at St. Bride's Institute on January 31.

Yours faithfully,
Shuttleworth Club, G. F. Forster, Hon. Gen. Sec.
Fyefoot Lane, Queen Victoria Street, E.C.

Legal Queries.

Before sending in a query for reply in this section see if the subject is not dealt with in "The Chemists' and Druggists' Diary," 1900, pages 212–226, and pages 259–262.

232/64. *Will Pink.*—The words "Pink Pills" do not belong exclusively to anybody; but the Dr. Williams' Company have popularised the words in connection with the pill of their manufacture. If you employ the words at all you must see that the article which you sell is not a colourable imitation of theirs. We are not prepared to say whether the package which you suggest is or is not an infringement. It is not our custom to decide questions of that kind.

231/41. *Limonis.*—Essence of lemon now comes under the Sale of Food and Drugs Acts, and as that name is used both for oil of lemon and a solution of the oil in spirit you will be safe in stating that it is "an essence prepared from natural oil of lemon."

233 64. *Mag. Sulph.*—(1) We cannot add anything to what we have recently said regarding the retailing by unqualified persons of preparations containing scheduled poisons. (2) Pil. potas. permang., gr. iij., are used for certain forms of amenorrhœa, and they are not a remedy for female complaints generally. They are dangerous in cases of pregnancy, and anyone retailing them should assure himself that the conditions of sale are not such as to make him liable to criminal proceedings for the sale of noxious drugs.

237/70. *Subscriber from First Issue.*—Little liver-pills containing nux vomica, or cough-pills containing morphine or opium, can only be sold by persons registered under the Pharmacy Act, or those specially exempted in Section 17.

235/29. *F. C.*—All the tax that the Inland Revenue exacts on proprietary medicines is 1½*d.* in the 1*s.*, and so on, the value being that at which the article sells, not necessarily what it is marked.

235/10. *M. L.*—Methylated soap-liniment may be legally sold. No trouble has ever arisen under the Sale of Food and Drugs Acts in regard to it, and as long as the price charged is commensurate with the quality it is not likely that proceedings will be taken against anyone. The General Order by the Inland Revenue authorities is good protection to the honest retailer.

19/189. *Yorks.*—If Silverlock and Wilkinson put ferrocyanides, ferricyanides, and sulphocyanides of the alkalies in the poison schedule as metallic cyanides, they are in error. The Pharmaceutical Society does not regard them as such.

233/61. *Storm*, whose brother died intestate, leaving some property in Yorks, on which his father continued to live, gave a lien on this to his bank for an overdraft. The mortgage-deed should have been registered in Yorks, but was not. Subsequently "S." arranged a mortgage with a solicitor without disclosing the bank mortgage, and some time afterwards made an assignment of his business, whereupon the solicitor who had arranged the second mortgage sold the property, with the assistance of the father, and without the knowledge of "S." The bank, having discovered this transaction, are now pressing "Storm" for the amount of the original mortgage, and he wishes to know is he bound to pay this, and if the bank has any legal claim against him. [Our correspondent does not appear to realise his position. As we understand the matter, he mortgaged his reversion to the bank for 200*l.*, and then, without disclosing that mortgage, mortgaged the same property again to another mortgagee. The first mortgage was not registered in the Yorkshire registry, but the second was, and so took priority. Our correspondent, we presume, made default, and the second mortgagee exercised his power of sale. If he did so wrongfully, our correspondent has a right of action against him; any surplus purchase-money, however, would belong to the bank. The fact that the bank's solicitor did not register the first charge in Yorkshire does not injure our correspondent in any way. The solicitor to the bank had nothing to do with our correspondent, and is in no wise liable to him. If such solicitor were negligent then the bank could hold him responsible, but no one else. Our correspondent must, of course, pay the bank their 200*l.* which he has pocketed, and think himself lucky to get off so cheaply.]

Dispensing Notes.

A section for the elucidation of difficulties and interchange of views on dispensing-problems.

Mercurial Hair-wash.

Sir,—Will you kindly inform me the correct method of dispensing the following prescription?—

Hyd. ox. pulv.	ʒj.
Liq. ammon. fort.	ʒiiss.
Chloral. hydratis	ʒj.
Glycerini	ʒij.
Inf. rosmarini ad	℥vj.

Et adde—

Tr. canth.	℥j.

Ft. lot.

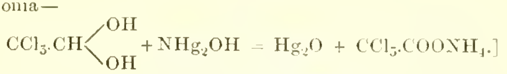
To be applied to the scalp once a day.

Yours truly,
Hydrargyrum. (223/45.)

[It would be interesting to know if the prescriber when he wrote this was aware of the chemical change which takes place. The oxide of mercury is changed to the black suboxide; but, as it is easily diffused through the fluid, it does not need any addition to suspend it. We have not found any way to prevent its formation, nor should we think such desirable, considering the decided chemical metamorphosis which results on mixing. It is a very interesting prescription in more ways than one. There is for the pharmacist to consider the meaning of the writer; he might pause, and wonder if a fluid which has every appearance of "black wash" is what was intended for a "scalp" application. It is easy to imagine the dirty condition the head would be in after a few applications, although, in cases of ringworm, more unsightly and sticky applications are often used. A gentle inquiry might, perhaps, help to settle this point. The chemistry of the lotion will be best understood when it is considered that ammonia and precipitated or yellow oxide of mercury form, as represented below, mercurohydroxylamine—

$$2HgO + NH_4OH = NHg_2OH + 2H_2O.$$

This compound is readily reduced in the presence of a substance capable of oxidation. This we have in chloral, the hydrate of trichloraldehyde, which is oxidised to trichloracetic acid, the ammonia salt of which is formed in the presence of free ammonia—



$$CCl_3.CH\begin{array}{l}\diagup OH\\ \diagdown OH\end{array} + NHg_2OH = Hg_2O + CCl_3.COONH_4.]$$

A Water Question.

Sir,—The following prescription was dispensed by me a few days ago:—

Ammon. carb.	gr. xx.
Pot. brom.	ʒiiss.
Spt. chlorof.	ʒij.
Tr. nucis vom.	ʒij.
Aq. ad	℥viij.

It was sent out with a very slight opacity, and returned to me the next day by the patient, who stated that at a previous place it was sent out with a white deposit. I have since made two mixtures—one with aq. dest., the other with ordinary water. The former in two days began to show a slight deposit, the latter almost immediately. The town in which it was previously dispensed possesses a number of lead-mines. Can this have anything to do with the white deposit?

Yours truly,
Amicus. (199/16.)

[When tap-water is used the lime in the water is precipitated by the ammonium carbonate; the latter with the tr. nuc. vom. would darken the mixture. We do not think lead has anything to do with it.]

Atropine Ointment.

Sir,—Would you be good enough to mention the proper way to dispense the following?—

Atropinæ	gr. ¼
Ol. petrol. alb. pur.	ʒij.

Solve.

Have tried heating, but on cooling the alkaloid crystallises out. The prescription is by a well-known Edinburgh specialist.

Spade Ace. (183/66.)

[Atropine is not soluble in liquid paraffin. Add a drop of oleic acid to the alkaloid: it will then dissolve in the liquid and remain clear. This is justifiable, seeing that the prescriber says "solve," but it is just as good to triturate the alkaloid with a grain or two of the paraffin and add the rest gradually.]

Calamine-and-Lead Lotion.

Sir,—I have tried a good many ways of dispensing this lotion (*C. & D.*, January 6, page 32), but have not been successful. In my opinion it cannot be dispensed.

Yours truly,
Nitrogen. (90/17.)

What is the Prescriber's Object?

Sir,—What can I do with the following? I cannot turn it out at all decent. Would it be better to leave out the last ingredient?—

Sodii chlor.	ʒij.
Sodii bicarb.	ʒij.
Sodii biborat.	ʒij.
Glyco-gelatin.	℥j.

ʒj. to a pint of water.

F. S. (89/4.)

[An unmanageable sticky mass results from mixing the above. The writer should be consulted.]

Salol-and-Thymol Pills.

Sir,—Will you please inform me the best way of making up the following pills?—

Salol.	gr. ij.
Thymol.	gr. j.
Pepsin.	gr. j.
Ext. nuc. vom.	gr. ¼

Ft. pil. Mitte xij.

Two to be taken after meals.

Yours, &c.,
R. J. (243 32.)

[Salol and thymol do not change when mixed as powders, but when an attempt is made to mass them they liquefy, and the liquid is very difficult to make into pills. Use plenty of kaolin or kieselguhr and some liquorice powder, finally adding a small quantity of liquid glucose. It will be necessary to make double the number of pills from the mass thus formed.]

Miscellaneous Inquiries.

We endeavour to reply promptly and practically to trade questions of general interest, but cannot guarantee insertion of replies on a particular date, nor can we repeat information given during the past twelve months.

205/56. *Pot. Chlor.* — **Mixture for Preventing Quinsy** coming on.—This is represented by the following formula :—

Potass. chlor.	ʒj.
Tr. cinchon. co.	ʒvj.
Spt. chlorof.	ʒj.
Syr. aurant.	ʒiij.
Aqua ad	ʒvj.

℥j. ter in die.

191/29 (*Gloster*) and 200/51 (*E. R. T.*).—**Egg Julep.**—There is a good formula for this in the *C. & D.*, September 16, 1899, page 496. Here is another :—

Transparent or fine curd soap	℥ss.
Saffron	ʒss.
Water	a sufficiency

Macerate the saffron in a quart of boiling water, dissolve the soap, and when cold add the following solution :—

Oil of lavender	♏xl.
Oil of cloves	♏x.
Otto of rose	♏xv.
Oil of bergamot	♏xv.
Essence of musk	ʒj.
Rectified spirit	Oj.

Finally make up the julep to 1 gal. with water.

175/34. *Mizpah.*—We received the samples of varnish, but analysis would not be of much use to give the information you require.

223 61. *Cymro.* — **Quinine, Iron, and Phosphorus Tonic** :—

Quin. sulph.	ʒj.
Ac. phosph. conc.	ʒss.
Syr. ferri phosph.	℥iv.
Tr. aurantii	℥ij.
Glycerini	℥iiss.
Aq. aurantii	℥ij.
Aq. ad	℥xxxvj.

℥ss. pro dosis.

2 4/21. *A. T. D.*—**Essence of Rennet.**—The following is a good recipe from "Pharmaceutical Formulas" :—

Dried vells (shaken free from salt, and cut small)	24 lbs.
Salt	12 lbs.
Rectified spirit	4 gals. 32 oz.
Sherry	1 gal.
Water	18 gals.

Macerate for a week, strain, set aside to clear, adding previously a few ounces of fullers' earth. Decant, and filter.

226/1. *F. D.*—The formula for digestive syrup was given in the *C. & D.*, May 23, 1898, page 897.

227/51. *H. E.*—**Liquid Annatto.**—See *C. & D.*, January 15, 1898, page 100.

246/12. *Nemo.*—Will you make your query a little more definite?

231/25. *W. J.*—The ventilation of your window-enclosure is at fault in causing so much sweating. You should arrange that a current of air circulates through it.

226/72. *M. M.*—It is impossible to chemically distinguish between natural and physiologically pure sodium salicylate. The physical appearance of the salts varies with different makers.

239/13. *Machine.*—For mixing solid fat and water you require an ointment-mill such as is figured in the 1898 DIARY, page 488. Write to the advertisers of pharmaceutical machinery whose announcements are in the *C. & D.* and DIARY.

229/56. *C. M.*—Menthol cones are reunited to their pedestals by melting the broken end in a Bunsen flame and placing in position. A better way is to use a paraffin wax of a high melting-point as a cement.

225/46. *R. B. L.*—**White Ink** for stamping dark-coloured hosiery :—

Zinc-white	ʒij.
White precipitate	gr. v.
Mucilage	ʒj.
Water	ʒvj.

The zinc-white requires to be triturated with a small quantity of water till quite smooth before adding the mucilage and bulk of water.

231/13. *J. H. H.*—**Boot-gloss** :—

Shellac	℥iiss.
Spirit	℥xiiss.

Dissolve, and add to a solution of—

Curd soap	ʒiiss.
Spirit (25-per-cent.)	℥iv. ʒvj.
Glycerin	℥ss.

Then add—

Aniline black	ʒss.
Proof spirit	℥xiiss.

Keep in a warm place for two weeks before bottling.

218/27. *X.*—(1) It is quite possible that **Salol** may be made with salicylic acid which is not of the highest degree of purity, as the purest acid would not necessarily yield the purest product, since the purity depends upon recrystallisation of the salicylate of phenyl. We cannot undertake the analysis of the sample which you send us, as it will not yield any information of interest to our subscribers generally. You should, however, have no difficulty in satisfying yourself that it is pure salol by observing whether or not it accords with the Pharmacopœia character and tests. (2) The B.P. standard for **Sodium Salicylate** means that it has been made with an acid physiologically pure. Kolbé's patent for the manufacture of salicylic acid dealt with the chemical reaction whereby phenol was converted into the acid. The method of purifying the products so that the physiologically pure acid should result is not good subject-matter for a patent, and we should think that the fact that it was many years after the process was discovered before an absolutely pure acid was put upon the market is sufficient evidence that the specification did not require the production of such an acid.

215/2. *W. H.*—(1) The **Soldering-fluid** sold in bottles is a strong solution of zinc chloride. It is on the whole the best soldering-fluid obtainable. (2) Pimento is not a drug suitable for making a decoction of, as the volatile oil is driven off by boiling. There is not, as far as we can trace, any official formula for infusion of pimento, but we would suggest making it of the same strength as infusion of cloves. There is much information on the making of concentrated infusions in "Pharmaceutical Formulas."

216/67. *S.* (Calcutta).—(1) **Hair-oil** :—

Benzoin.	℥j.
Ol. bergamot.	ʒj.
Ol. caryoph.	♏xx.
Ol. ros. geranii	♏xx.
Ol. olivæ	Oj.

Digest the benzoin in the olive oil on a water-bath for three hours, and strain. When cold add the perfumes.

(2) **Emulsion of Cod-liver Oil.**—You will find, by reference to the index, that we gave several formulæ for this in the last volume.

Information Wanted.

Postcard replies to any of the subjoined inquiries will be esteemed.

242/15. Where can "Russel's Salve" be had?

236/11 Sponges on wired corks for boot-polish.

238/54. Address of makers of "Shavo" shaving-cream.

234/18. Where in Manchester or Liverpool can black malt be obtained?

The Phenol Proclamation.

A SPECIAL meeting of the Chemical-trade Section of the London Chamber of Commerce was held in the offices of the Chamber, Eastcheap, E.C., on January 22, to consider if any representations should be made to the authorities in view of the Royal Proclamation dated January 11, 1900, under Customs and Inland Revenue Act, 1879, directing that from and after that date the following goods, being articles "judged capable of being converted into or made useful in increasing the quantity of military stores—viz., picric acid, trinitro-phenol, trinitro-cresol, carbolic-acid phenol, cresylic-acid cresol—shall be, and the same are hereby, prohibited either to be exported from the United Kingdom or carried coastwise." Mr. Thomas Tyrer (chairman of the section) presided, and among those present were Messrs. David Howard, S. B. Boulton, George Bult Francis, F. H. Lescher, Charles Umney, E. J. Millard, F. Shaw, W. R. Arnold, F. Lennard, Victor Blagden, J. G. Lyon, R. Taubman, T. Pierre Morson, F. Boehm, Peter MacEwan, J. Fuerst, C. Christopherson, S. H. Lambert, H. Hollinghurst, H. Fergusson, W. Beattie, J. Sparenborg, H. Lorenz, A. M. Zimmerman, H. M. Savage, W. J. Berry, Sydney Morgan, P. Dvorkovitz, J. W. Drysdale, and William Pearce.

Mr. Tyrer, having referred to the importance of the subject of the meeting, said that since it had been called the President of the Coal-tar Distillers' Association (Mr. S. B. Boulton) had written to him pointing out that the matter was very much a manufacturers' question, and suggesting that they should work together. Mr. Boulton was present, and would speak. They would not discuss the wisdom or unwisdom on the part of the Government for any mistakes which had been made during the past twenty years. The sole question with which they were concerned was the prohibition of legitimate trade, which, so far as they could see, could have no possible detrimental effect upon the interests of the country.

Mr. Boulton was then called upon to speak. He took it they were agreed that any representation made to the Government should embrace all interests, which on the side of manufacturers were much larger than others. They were careful of the steps they had taken in the matter, as when a proclamation was suddenly issued to the world they thought it wise to make a few inquiries before taking such steps, and agents, brokers, and also some foreign houses had to be consulted to ascertain how the matter stood. In the case of his own particular firm, they had had a special letter from the Treasury on the subject, which he read, and which simply called the attention of the firm to the fact that the proclamation had been issued, and as Messrs. Burt, Boulton & Haywood were very large exporters hoped they would give the matter their special attention. The firm had replied that they would, at the same time pointing out to the Treasury the interests that were involved, and generally explaining how the proclamation would jeopardise trade and industry, without probably securing the object which the Government had in view. Mr. Boulton, continuing, said it would be admitted that in any representations which are to be made to the Government it would be absolutely necessary for the Chemical-trade Section to associate themselves entirely with those who manufacture these substances. It would be futile to do otherwise, and if the Chemical-trade Section alone were to appeal to the Government he thought they would not be listened to. It would, therefore, be much better to go together as one undivided body. Now the question is, What can we ask the Government to do? It would be futile to ask the Government to do anything which would facilitate the getting of our products into the hands of the enemy. Another point is, Do the Government wish (besides preventing these explosives going to the Boers) to prevent the accumulation of large stocks of explosives on the part of friendly Governments? If, however, we can ascertain from the Government that their sole object is to prevent these explosives from getting into the hands of our enemies, that is well and good. But if they wish to prevent stocks getting into the hands of these friendly Governments, that is another matter. If our Government wish to get into their hands a large stock of raw material so as to prevent friendly Governments getting hold of it, we shall be hardly likely to succeed in our representations to the Customs authorities and War Office. The other point is as regards the exportation of carbolic acid for antiseptic purposes, in which there is an enormous trade done in all parts of the world. It may not, however, be generally known that we manufacturers are also larger exporters for antiseptic purposes than all of you put together. I see that the suggestion I made to the Treasury has been transmitted to the Customs, and if the Customs authorities act properly I think we shall not have much difficulty if we can give guarantees that they are intended for disinfecting-purposes. If we can say that, we shall relieve the minds of many gentlemen in the export-trade. There are articles which we tar-distillers manufacture for disinfectant-purposes, and send out in barrels and casks all over the world. It would, therefore, be an unwise policy for the Chemical-trade Section to make a separate protest to cover the small packages, and we must deal with the proclamation as a whole. We must ask the Government to allow us to still send out our goods to India, the Cape of Good Hope, South America, &c. The matter resolves itself into two main questions which we have to ask—(1) Does the Government intend this prohibition to extend to goods other than those used for disinfecting-purposes? It would be ridiculous for them to assume that it does not. (2) Does it intend the prohibition to extend to the exportation of goods which might be used for manufacturing explosives for friendly Governments? That is a point of great importance and delicacy. Carbolic acid is only one of many substances which we tar-distillers make, and if the price is sufficient to pay manufacturing-expenses we should continue to make it, but if it were to fall to an unprofitable price we should cease to make it altogether. If the Government have not a sufficient stock of explosives in their possession, they ought to set about erecting a large factory for the manufacture of picric acid, so that they may, at least in a small way, keep pace with the foreign Governments. That is a national question, however, and if there are some who have not the courage of their opinions they are unpatriotic. That is the view we ought to take when we approach the War Office. Mr. Boulton stated that the meeting of the tar-distillers would be held next day.

Mr. Tyrer said they were much obliged for this clear exposition, and, as they were all exporters in a minor degree, he thought members should have full opportunity of expressing their views, whether they agreed with Mr. Boulton or not. He, himself, saw no reason why the Chemical-trade Section should not join hands with the tar-distillers and consolidate their interests. Perhaps, if there were any differences, a compromise might be arranged.

Mr. Boulton: No compromise is necessary; you must be entirely with us.

Mr. Lescher asked whether, in view of the fact that carbolic acid could not now be exported, it would be possible to export carbolic oils.

Mr. Boulton was understood to say that was a question for the Government to answer.

Mr. Drysdale understood from communications he had received from the Continent that day that it was the intention of one large manufacturer to lay down fresh plant for the manufacture of carbolic acid from benzol, as that article was not mentioned in the proclamation.

Mr. Boulton said that the German manufacturers did not depend on the English manufacturers of benzol.

Mr. Umney asked if the Government were really buyers of picric acid, to which Mr. Boulton replied that it was very difficult to say what the attitude of the Government was. He, himself, had wished four years ago to enter on the manufacture of picric acid if the Government were willing to purchase a certain quantity, but, in spite of all his efforts, he could get no definite answer from the War Office then.

Mr. Umney said that no doubt Germany would adopt retaliatory measures by refusing to export salicylates, and it had been so reported. This country was not able to produce salicylates, and was absolutely dependent on Germany for them.

Mr. Howard: Thanks to the present patent-law.

Mr. Umney: It is a serious matter; we do not know what to do.

Mr. Zimmerman remarked that he heard, several times last week, that the exportation of salicylates from Germany had been stopped, but he had received a letter from Scherings that day to the effect that the German Government had not prohibited the exportation.

Mr. Fuerst said that no prohibition had been placed on explosives from the Continent, so that the statement which had been made that retaliatory measures had been taken was quite unfounded.

Mr. Pearce said his information was contrary to that of Mr. Fuerst, and his opinion was that the export of picric acid from the Continent had been stopped.

Mr. Fuerst, however, maintained that picric acid had been imported, as a matter of fact, without any difficulty and since January 11, the date of the proclamation.

Mr. Pearce said that with regard to that particular parcel he was aware that picric acid had been imported into London, but under great difficulties, and it was only due to the energy of the people concerned that it arrived here.

Mr. Umney said if they, as wholesale druggists, asked for permission to export carbolic acid for medicinal purposes under the supervision of the Customs authorities, they should then want permission to send it to their colonies.

Mr. David Howard said it seemed to him there could be no antagonism between the two interests, and it was very important there should be joint action—of course bearing in mind all the points which those who were exporters for medicinal purposes had urged. What provisions were to be made to prevent their privileges being abused he could not say. With regard to the export of goods to other parts of the world, there was not the remotest possible chance, say, in South America, of them being made into picric acid. The fact of the carbolic acid being in ornamental bottles would not preclude it being manufactured into picric acid.

Mr. Lescher, speaking for the wholesale druggists, said they all agreed with Mr. David Howard's remarks, and that it would only confuse their views if any other wholesale druggist thought differently. They would join hands with the tar-distillers, but would emphasise the point that they went with them only from their (the wholesale druggists') point of view.

Mr. Chas. Umney then proposed, and Mr. E. J. Millard seconded, the following motion, which was carried:—

> That a committee of the Chemical-trade Section of this Chamber be appointed to co-operate with the Coal-tar Distillers' Association in reference to this proclamation. That the following gentlemen be the representatives of the section, with power to add to their number:—Mr. Thomas Tyrer Chairman of the section), Mr. F. H. Lescher (President of the Drug Club), and Mr. David Howard. (It was afterwards agreed to add Messrs. Charles Umney, G. B. Francis, and W. R. Arnold to this committee.)

Mr. Drysdale asked the committee to consider the question of the exportation of crude carbolic acid, and that permission be obtained from the Government to permit such quantities to be exported as were suitable for legitimate medical purposes. If the German manufacturers were to make carbolic acid from benzol within the next two or three months, as was stated, they would be able to supply their present demands. He thought the manufacturers and dealers were entitled to some consideration on the part of the Government.

Mr. Tyrer reminded the meeting of what Mr. Drysdale had said, and thought it should be taken up by them, as it affected business already in hand.

The meeting then adjourned.

The Tar-distillers' Meeting,

which was held at 64 Cannon Street, on January 23, was representative of the whole kingdom, fifteen distillers being present, and the Sub-committee of the Chemical-trade Section of the London Chamber of Commerce also attended. Mr. Boulton presided. After a long discussion the Chemical-trade Sub-committee decided, after some wavering, to join hands with the Tar-distillers' Association, and it was resolved that a deputation should call at the Customs Office on Wednesday, and on the Home Office if necessary. Mr. S. B. Boulton, Mr. F. Lennard, Mr. C. D. T. Bushell, and Mr. J. J. Holden were appointed on behalf of the Tar-distillers' Association, to whom was added Mr. Victor Blagden, and, on behalf of the drug and chemical trade, Mr. T. Tyrer, Mr. F. H. Lescher, Mr. C. Umney, and Mr. David Howard. The proceedings terminated with a vote of thanks to the Chairman.

Trade Report.

NOTICE TO BUYERS.—The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers stock the goods. Qualities of drugs and oils vary greatly, and higher prices are commanded by selected qualities even in bulk quantities. It would be unreasonable for retail buyers to expect to get small quantities at anything like the prices here quoted.

It will be specially noted that this report closes on Wednesday evening, as, owing to the largeness of the present issue, we are compelled to go to press a day earlier. Any important information which we may learn on Thursday will be inserted in our coloured supplement. The leading features since our last report have been a considerable reduction in cocaine, and a substantial advance in sulphonal The tendency of most drugs and chemicals, however, is towards higher rates, and business is very good in certain lines. Quinine is quiet in second-hands, though makers are exceptionally busy, and one or two are not offering at the moment. Other changes of the week are as follows:—

Higher	Firmer	Easier	Lower
Acid, citric	Acetanilide	Menthol	Cocaine
Cloves	Ammonia sulphate	Oil, cotton	Oil, peach kernels
Galls (Persian)	Ginger (Cochin)	Oil, lime	Shellac
Pepper	Lycopodium	Quinine (second)	
Pot. bicarb.	Oil, castor		
Sulphonal	Oil, sandalwood		
Turpentine	Petroleum		

Arrivals.

The following drugs have arrived at the principal ports of the United Kingdom, from January 18 to 24, both inclusive:—Aloes (Bombay), 6; balsams, 8; benzoin, 64; camphor oil, 300; cardamoms, 68; chillies (Jap.), 140; cinchona, 79; castor oil (Ital.), 45; chamomiles, 12; cocaine, 4; cocoa butter, 35; cod-liver oil (cases), 50; (barrels), 409; ergot, 8; fenugreek-seed, 750; gum arabic (Bombay), 211; gum thus, 350; gum tragacanth, 50; honey (Ital.), 30; juniper-berries, 28; lemon-juice (pipes), 10; lime-juice (cases), 76; lime oil, 7; olibanum, 507; opium (Smyrna), 162; (from Singapore), 22; saffron, 1; senna (Alex.), 90; turmeric (Bombay), 596; wax (Japanese), 100.

German View of the Phenol-prohibition.

Dr. Raschig (Chemische Fabrik, Ludwigshafen) has sent a petition to the German Chancellor, asking him to use his influence with the English Government to withdraw the prohibition of the export of carbolic acid. The petition points out that the whole world depends on England for supplies of carbolic acid, most of which is used for peaceful purposes. The German chemical-industry will be especially injured by this prohibition. The chemical-factory at Ludwigshafen receives about three-quarters of all the crude carbolic acid exported from England to Germany. The petition goes on to say that there is no danger of the English Government not having enough material for picric acid to satisfy their war-demands.

The *Kölnische Zeitung* remarks that "not only the German chemical-industry, but the entire industry of Germany, is most keenly affected by the prohibition. The minor proportion only of carbolic acid is used for the production of explosives (picric acid), and by far and away the greater part for disinfectants and for the manufacture of pharmaceutical products, such as salicylic acid, salol, phenacetin, salophen, &c. Germany only produces one-tenth of the carbolic acid she requires, the rest being imported from England. In 1899 the imports from England amounted to about 4,000,000 kilos., representing at current prices a value of nearly 7,000,000m. The German stocks of carbolic acid are only sufficient to last two months at the longest; if, therefore, the export prohibition be not cancelled before then, not only the pharmaceutical and colour industries, but the colour and textile industries of Germany, will be severely injured. The results, from a pecuniary and social direction, cannot be overlooked—they will be of far-reaching importance, It is true that carbolic acid can also be made from benzol, but there is no manufactory established for this purpose, as the synthetic carbolic acid, on account of the high cost of production, cannot compete with coal-tar carbolic acid. The German chemical industry will scarcely or only temporarily adopt the making by synthetic methods, as, after the prohibition is withdrawn, the competition which would ensue with the other acid would be ruinous." Our contemporary considers the English Government was very ill-advised in issuing the export prohibition as the English Government cannot desire the establishment of German manufactories for making synthetic carbolic acid, and concludes by saying that an appeal is to be made [? by the German Government] for a speedy repeal of the prohibition.

Heavy Chemicals.

[*These prices are for market-centres other than London.*]

The general position in the heavy-chemical market remains to a great extent unchanged, but if anything a still firmer tone is apparent. The all-round demand is well kept up, and reports from the Tyne, Clyde, and Lancashire districts all point to a good business passing. Prices are firmly maintained, and in some cases for new supplies tend higher. Of course in many cases the prices have already been fixed by contract over the year.

Alkali-produce.—Stocks continue very small, and caustic soda is particularly scarce. Prices are now for 76 per cent., 10*l.* 10*s.* per ton; 74 per cent., 10*l.* to 10*l.* 5*s.*; 70 per cent., 9*l.* 15*s.*; and 60 per cent., 8*l.* 15*s.* Bleaching-powder is in brisk request. Loftwood casks on rails, 6*l.* 10*s.* per ton; f.o.b. Liverpool, 6*l.* 12*s.* 6*d.*; and f.o.b. Tyne, 6*l.* 15*s.* Hyposulphite of soda very firm, 6*l.* 5*s.* to 6*l.* 12*s.* 6*d.* per ton, f.o.b., in casks; and 6*l.* 15*s.* to 7*l.* 2*s.* 6*d.* in 1-cwt. kegs. Ammonia alkali and soda ash are moving well. Yellow prussiate of potash, best Lancashire makes, keep steady at 8*d.* to 8¼*d.* per lb.

Recovered Sulphur is scarce, and now stands at 5*l.* to 5*l.* 2*s.* 6*d.* on rails in bags.

South Durham Salt.—Firmly maintained at 11*s.* 3*d.* per ton, f.o.b. Tees.

Sulphate of Ammonia.—Firmer, and from 2*s.* 6*d.* to 5*s.* per ton dearer than last quotations. Exports from Leith last week, 447 tons.

Sulphate of Copper is easier, but shows no quotable change at present.

Coal-tar Products are for the most part firm all round. Carbolic acids are dearer. Crude, 60 per cent., 3*s.* to 3*s.* 1*d.*; and 75 per cent., 3*s.* 9*d.* Crystals, 34° to 35° C., 10¼*d.*; 39° to 40° C., 11¼*d.* to 11¾*d.* Benzols are flat, 90 per cent., 8*d.*; and 50 per cent., 10*d.* Aniline oil and salts are quiet, the former at 4¼*d.* to 4½*d.*, and the latter at 4¼*d.* Anthracene, A grade, 3¾*d.* to 4*d.*; B grade, 2½*d.* to 3*d.* Pyridin, 4*s.* 7*d.* to 4*s.* 7½*d.* Toluol, 1*s.* 3*d.*; and pure, 2*s.* to 2*s.* 1*d.* Creosote firm, at 3¼*d.* to 3½*d.* Naphthas are rather quiet, but a better tone seems likely to rule. Solvent naphtha, 90 per cent., 1*s.* 4*d.* to 1*s.* 5*d.*; and 95 per cent., 1*s.* 6*d.* Crude naphtha, 30 per cent., 5*d.* to 5½*d.* Solvent wood naphtha, colourless, 2*s.* 9*d.* to 3*s.*; and miscible, 3*s.* 8*d.* to 3*s.* 10*d.*

White Powdered Arsenic.—Firm and unchanged at 19*s.* 10*d.* per ton ex ship Garston.

Lead Salts.—Steady, and in fair request. Sugar of lead, brown, 19*l.* 15*s.* per ton, less 2½ per cent. Glasgow. Sugar of lead, white, 24*l.* 10*s.* per ton, less 2½ per cent. Glasgow. Nitrate of lead, 23*l.* 10*s.* per ton, less 2½ per cent. Glasgow.

Sulphocyanides.—In quiet demand at unchanged rates. Potassium, 7*d.* Ammonium, 95 per cent., 6*d.*; and barium, 95 per cent., 4¼*d.* per lb.

German Drug Market.

Hamburg, January 22.

The drug-market shows more activity since last week, and several articles have a firmer tendency. *Agar-agar* for spot delivery is held for 390m. per 100 kilos., while forward delivery offers for shipment at 365m. per 100 kilos. *Aloes* (*Cape*) continues firm, at 66m. per 100 kilos. *Camphor* (*Refined*) is quiet, with second-hand sellers at 385m. to 380m. per 100 kilos. *Citric acid* is tending firmer, at 272m. per 100 kilos. *Cocaine* is dull of sale; manufacturers have reduced their price 100m. per kilo., and now ask 600m. per kilo., with second-hand sellers at 550m. per kilo. *Condurango-bark* is unchanged, at 190m. per 100 kilos. *Caraway-seed* is firmer, at 54m. per 100 kilos. *Cevadilla-seed* is scarce on the spot, at 90m. per 100 kilos. *Ergot of rye* is very strong; the stocks here are small, and 560m. per 100 kilos. is now wanted. *Menthol* is easier; business has been done here at 19½m. per kilo. *Lycopodium* is very firm and dearer; holders ask to-day 435m. per 100 kilos. *Quinine* is very firm, at 45m. per kilo. *Santonin* is quiet; second-hand has sold at 20m. per kilo. *Wax* (*Japanese*) unchanged, at 60m. per 100 kilos. *Carnauba wax* firm, at 88m. to 130m. per 100 kilos., according to quality. *Oils.*—Cod-liver is quiet; new 1900 non-congealing oil, at 75m.; 1899, at 67m. per barrel. Castor tending firmer; spot first-pressing in barrels, 55m.; March-June delivery, 54m. per 100 kilos. *Essential oils.*—Cassia is dull and lower. Caraway-seed very firm, at 10¼m. per kilo. Star-anise quiet, at 13¾m. per kilo. Peppermint oil also quiet; HGH at 5¼m. to 5⅕m. per lb., and Japanese at 8¼m. per kilo.

Cablegram.

Hamburg, January 24. 12.59 p.m.:—The market here is firmer in tone. Ergot is now selling at 565m. per 100 kilos. Lycopodium is steady, at 440m. per 100 kilos.; and citric acid is 275m. per 100 kilos.

London Markets.

Acetanilide is firmer, 10*d.* per lb. being wanted for 10-cwt. lots.

Acid, Carbolic.—The tendency is naturally easier in view of the recent proclamation, and prices may be quoted a shade under those last given.

Acid, Citric.—Very firm, at 1*s.* 3*d.* per lb. spot, at which sales of English have been made this week. The advance which has occurred during the past fortnight is somewhat surprising, coming as it does at a dull time of the year. We hear on good authority, however, that it is attributed to a deadlock between the manufacturers of acid and the exporters of lemon-juice, the latter holding out for higher prices than the makers are disposed to pay, the consequence being that little, if any, citric acid is in process of manufacture at the present time. Makers decline to sell for forward delivery, and higher prices are confidently anticipated within the next six weeks. Those who are best able to judge the position predict that 1*s.* 4*d.* to 1*s.* 6*d.* will be the quotation in March. This week 1*s.* 3*d.* has been refused for a 5-ton lot. The syndicate in concentrated juice in Messina appears to have been stronger than what was anticipated, and was pooh-poohed at the time of formation. Some of the "bear" manipulators of juice on this market will now repent their action.

From Austria it is reported that heavy sales of juice have been made for delivery during the summer months at the current quotations, and that first-hand holders are asking higher prices. The present price of acid is low, and it is not believed that it will recede further.

Acid, Tartaric.—Quietly steady, with, if anything, a firmer tendency, at 1*s.* 0½*d.* per lb. for English and 11¾*d.* for foreign.

Areca-nuts are lower, business having been done immediately after the auctions at 17*s.* 6*d.* per cwt.

Benzoin.—Quite a large business was done immediately after the auctions last week, and several catalogues were cleared. Fine Sumatra seconds has changed hands at 9*l.* 10*s.* per cwt. Palembang is still to be had at 72*s.* 6*d.* for second pile.

Caffeine.—There was a rumour on 'Change to-day (Wednesday) of an advance in price, but it was unconfirmed.

Camphor.—Crude has been in more inquiry this week for arrival, and on Tuesday a sale of 100 piculs was made at 162*s.* 6*d.* per cwt., c.i.f., for near at hand. Chinese is quoted at 160*s.*, c.i.f.

Hamburg reports regarding refined, state that the market, so far this year, has been inactive; but during the last few days renewed interest has been shown and consumption-orders are increasing.

Chamomiles.—Prices are maintained at the recent high level, No. 1 Belgian flowers being quoted at 90*s.* per cwt. spot.

Cocaine.—On January 19 manufacturers reduced their quotation by 2*s.* 9*d.* per oz., and now quote 17*s.* 9*d.* for bottom quantities, 18*s.* for 100-oz. lots, and 18*s.* 3*d* for 25-oz. lots. As already noted, there is very little to be had in second hands, and one or two are not selling except at makers' prices. The cause of the drop is said to be the larger arrivals of crude coming into Hamburg and London.

Cocoa-butter.—The auctions to be held in Amsterdam on February 6 will consist of 70 tons Van Houten's, 12 tons Helm, and 4 tons De Jong; while on the same date in London 110 tons Cadbury's brand will be offered.

Colocynth.—For good white Turkey apple 1*s*. 6*d*. per lb. has been paid this week

Dragons' Blood.—A few cases of medium lump have sold at 9*l*. per cwt. since the auctions.

Ergot of Rye.—There is a small inquiry, but no business. Russian is nominally 3*s*. per lb.

Galls.—Blue Persian have again advanced, holders now asking the extreme figure of 100*s*. per cwt.; the last prices paid were from 85*s*. to 95*s*. There are sellers for shipment at high figures.

Ipecacuanha.—A few bales of both Rio and Cartagena have changed hands this week at 12*s*. and 8*s*. per lb. respectively. Of Cartagena 24 bales have arrived this week.

Menthol.—The tendency remains easy with sellers at 9*s*. 9*d*. to 10*s*. per lb. according to holders.

Oil, Anise, Star.—Very inactive, with sellers at 5*s*. 10*d*. per lb., spot, but in the absence of business this figure is nominal.

Oil, Castor.—All kinds have a higher tendency. French is now 36*s*. to 36*s*. 6*d*. per cwt. in cases, and will be dearer; medicinal Italian has also been advanced to 37*s*., c.i.f. In auction last week East Indian seconds realised 3½*d*. per lb.

Oil, Citronella.—Ton lots have been sold recently at 11*d*. per lb., c.i.f.

Oil, Cloves and Caraway.—There is no actual alteration in prices so far, but the tendency is higher, and there may be a change in values before the end of the month.

Oil, Cod-liver.—Prices are nominal, and there is little, if any, business being done.

Bergen, January 20.—Very quiet, with few sales. Non-congealing Lofoten oil could be obtained at 70*s*. per barrel, f.o.b. Little news from the fishing is to be had at present, but so far it has not been promising. Still it is yet too early in the season to talk about the final result from the present indications. The exports from Bergen to date amount to 84 barrels, against 173 barrels at the same time last year.

Another correspondent, writing on January 20, reports that inferior cod-liver oil of the new catch has been sold in Bergen at the equivalent of 66*s*. per barrel, c.i.f. London. The official trade report from Bergen of January 19 stated that new steam-refined cod-liver oil, first quality, has been sold at 60kr. (say, 72*s*. per barrel, c.i.f. London). Our correspondent understands that there are heavy stocks in London purchased at high prices, and that sellers are doing their best to maintain prices. The market is falling, however, and the quotation of 80*s*. is a ridiculous one for new oil. The parcels of new oil that have arrived at Bergen have been small, and as a matter of fact do not sell at a higher figure than 60kr. (72*s*.) for first quality, so it is easy to see which way the price will go when the large parcels arrive.

Oil, Eucalyptus.—Globulus quality is very scarce and practically unobtainable—in fact, there are orders in hand which cannot be executed. There is a good inquiry for B.P. quality, with sales at 2*s*. per lb.

Oil, Lime.—The tendency is easier, good West Indian being worth 2*s*. 10*d*. to 2*s*. 11*d*. per lb., according to holder. A sale of one case of mixed quality from Dominica has been made at 2*s*. 9*d*.

Oil, Peppermint.—American HGH brand has been slightly firmer of late, spot sales having been made at 5*s*. 3*d*. in 5-case lots, whereas 5*s*. 1½*d*. would have been taken a fortnight ago.

Oil, Peach-kernel, has been reduced to 9*d*. per lb. by English distillers in wholesale quantities.

Oil, Sandalwood, is firmer at about 12*s*. per lb. for best English distilled oil in wholesale quantities.

Opium.—Quiet, but firm, the demand being mostly for cheap druggists' quality, of which there is little to be had. Good to fine Smyrna druggists' is quoted 9*s*. 3*d*. to 9*s*. 6*d*., and fair second "druggists," 9*s*. In Persian small sales continue to be made, at 12*s*. 9*d*. per lb. for fine.

Smyrna, January 12.—Quiet, and comparatively little business doing. The sales for the week amount to 30 cases, including 12 cases new Karahissar at 9*s*. 2*d*., 13 cases current tale quale at 9*s*. 2*d*., and 5 cases old Karahissar at 9*s*. 4*d*. per lb. Twenty-five cases of the above were taken for the United Kingdom and the balance for interior speculators. Since the late frost the weather has been favourable for the sowings, but in spite of this prices have been well maintained. Large quantities can only be supplied by a few interested holders, and these will not sell unless at higher rates. The arrivals to date amount to 2,392 cases, against 1,211 cases last year.

Constantinople, January 19.—The fortnight's sales amount to about 40 cases, at the parity of 8*s*. 7*d*. to 8*s*. 9*d*. per lb. for druggists', and 8*s*. 11*d*. for Balukissars. Outwardly the position appears as firm as ever, but there is no doubt that the continued fine weather is beginning to impart more anxiety on the part of holders to dispose of some of their stocks at present prices. There are no buyers here to-day even at 8*s*. 6*d*. per lb.

Otto of Rose.—The letter we published last week from a Kezanlik correspondent has caused some comment, and was somewhat of a revelation to dealers here.

Petroleum is firmer at $6\frac{3}{16}$*d*. to $6\frac{5}{16}$*d*. per gal. for Russian on the spot, and 7¼*d*. to 7½*d*. for American; water-white, 8⅜*d*. to 8⅝*d*.

Potash, Bicarbonate has been advanced 3*l*. per ton. now 34*l*. net in ton lots, without engagement, for ordinary English powder. Price for foreign powder was indefinite on Wednesday.

Quicksilver.—More business has been done this week, and the market is inclined to be steadier at 9*l*. 12*s*. 6*d*. per bottle from importers, and 9*l*. 11*s*. 6*d*. from second hands.

Quinine.—The second-hand market is decidedly easier this week, and business up to Tuesday had been of an unimportant character, prices closing on that day at 1*s*. 4⅞*d*., to 1*s*. 5*d*. per oz. for March delivery, and 1*s*. 4¾*d*. for spot. To-day (Wednesday) the market is quiet, with a few weak sellers who wish to clear out their holdings of a few thousand ounces, at 1*s*. 4⅞*d*. for March; this figure has been paid for a 5,000-oz. lot on the spot. The German makers quote 1*s*. 5*d*. in 1,000-oz. lots, but some of the German brands are out of the market at present, being full up with orders. Whiffen's brand has been sold this week at 1*s*. 5*d*. for 1,000-oz. lots. Howards' list-price is 1*s*. 8*d*. for 1,000-oz. lots in 1-oz. vials.

Saffron has been in fair inquiry, finest Valencia selling at 37*s*. to 37*s*. 6*d*. per lb. net.

Salicin.—Prices are very firm at the advance, and there are a good few inquiries about. There is reported to be a difficulty in obtaining delivery from makers, and in second hands there are also inquiries which cannot be filled.

Salicylates.—No intimation of any alteration in prices has been made as yet, makers awaiting developments and representations. No further orders are being booked meanwhile.

Sarsaparilla.—Small sales of Jamaica description have been made since the auctions at 1*s*. 8*d*. per lb., and genuine Lima-Jamaica at 1*s*. 1*d*. The arrivals this week are 47 of Jamaica, and 9 Lima-Jamaica.

Seeds.—*Anise* steady, at 21*s*. per cwt. for good Russian *Coriander* unchanged, but a good trade doing at 10*s*. 6*d*. to 11*s*. 6*d*. per cwt. for Morocco. *Fenugreek* firm, at 7*s*. per cwt. *Linseed* dearer, with business in bold clean at 58*s*. 6*d*. per quarter. *Canary* is more active, but prices are unaltered. *Cummin* is slow of sale and stocks small.

Shellac.—Previous to the auctions the market had been quiet, with small sales at 62*s*. per cwt. for fair orange TN. In auction on Tuesday over 1,000 cases were offered, partly "without reserve," and about one-half sold with fair competition at 1*s*. per cwt. decline for TN, which was quoted at 61*s*. The following prices were paid:—

Second orange, ordinary to middling reddish, part cakey, 60*s*. to 61*s*. per cwt.; fair reddish to bright, free, 61*s*. to 62*s*.; fine pale cakey, 66*s*.; superior lemony, 75*s*. *Button*, good pale, slightly blocky, 73*s*.; ordinary seconds, 60*s*. to 61*s*.; low dark, 56*s*.; and pickings, 43*s*. per cwt.

Sulphonal.—On Monday the combined makers advanced their prices 3*s*. per lb. They now uniformly quote 20*s*. per lb. for 10-lb. parcels, and 20*s*. 6*d*. for smaller quantities.

Sulphur.—Quiet as is usual at this time of the year. Foreign flowers are quoted 6*l*. 5*s*. per ton. Roll brimstone 6*l*., recovered 96*s*., f.o.b. Messina, and best thirds 80*s* c.i.f.

For continuation of this report see Coloured Supplement.

Produce Notes.

Exports of Senegal Gum.

The exports of gum from Senegal during 1898 were 5,322 tons (178,650*l.*), against 4,840 tons (188,860*l.*) in 1897. Of this quantity France received 5,052 tons (169,140*l.*), the United Kingdom 158 tons (5,806*l.*), and "other countries" 112 tons (3,704*l.*). It will be seen from the above that, although there was an increase of 482 tons in the quantity exported, there was a decrease of 10,211*l.* in the value.

Zanzibar Copal.

Herr B. Perrot, planter, of Lindi, East Africa, in the course of an article on Zanzibar copal in the *Tropenpflanzer*, describes an expedition to the Lutamba Lake, where the copal-tree flourishes in abundance. Unfortunately, many of the trees are wantonly destroyed by the natives, who knock off the thick readily-loosening bark in order to make chicken and pigeon cages from it. Many of these valuable trees are also destroyed by the immense forest-fires which are started by the natives to drive away the field-mice.

Rose-cultivation in Turkey.

With further reference to the gratuitous distribution of 100,000 rose-trees (see *C. & D.*, December 23, 1899, page 1013) by the Turkish Government, we now learn that it is also proposed to facilitate the otto-of-rose industry by the acquisition of stills, &c., of the latest kind, as these are greatly needed in Turkey. It is said that the Minister of Agriculture will make the necessary provisions for the purchase and sale on credit, or hire, of stills to persons needing them. These stills cost about T25*l.* to T30*l.* each. Written instructions as to the planting and cultivation of the rose-trees have also been furnished to agriculturists.

Lagos Palm Oil.

The exports of palm oil from Lagos from 1894–98 were as follows:—1894, 187,297*l.*; 1895, 205,553*l.*; 1896, 159,150*l.*; 1897, 97,590*l.*; 1898, 97,337*l.* From these figures it appears that the palm-oil trade is less than half what it was in 1894 and 1895. The falling-off is attributed to rubber having become, since 1894, such a large article of export from the colony, but owing to the injury inflicted on the trees (says the Governor of Lagos) from the reckless way in which it has been collected, it appears certain that within, say, five or six years this industry will fall off entirely. The export of palm-kernels during the past five years remains about stationary, the value in 1898 being 362,539*l.*

The Pemba Clove-crop.

From the *Shamba* we learn that the sanguine expectations about the clove-crop will not now be realised, the crop being already practically picked. There has been an entire absence of the bustle and high pressure that prevailed last year. Planters themselves have been much deceived by the appearance of the trees. It is reported that on one large shamba (plantation), where last year they picked 2,000 fraslas (1 frasla = 36 lbs.), they have finished picking, and have only 300 fraslas. Most of the large shambas have got in their crop, and in nearly every case it is a very short one. In Europe a fairly large crop was expected, about 120,000 bales, but this figure will have to be modified, and according to the *Shamba* it will only amount to between 60,000 and 70,000 bales.

The Amsterdam Cinchona-market in 1899.

A review just received from Mr. H. A. van Overzee, of Amsterdam, gives some interesting statistics and other particulars of the bark market at Amsterdam during 1899. The small shipments of bark in January and February caused a considerable rise in the prices at the early sales; in fact the average unit, which in January was about 4·70c., rose in March to about 10.90c., an increase of about 130 per cent. When, however, it was found that the March shipments, and subsequently those of April also, were above the average, and that the previous small shipments were not due to scarcity, but to accidental causes, a reaction set in, and prices gradually dropped with continued large shipments, until in September, 1899, the average unit had come down to about 5.35c. After this there was again an improvement, and at the last sale of the year the unit was, on the average, 7.75c. The improvement in the prices, notwithstanding larger shipments, would point to a steady increase in the demand for Java bark.

The Batavia Quinine-auctions.

It has now been definitely settled that in the course of the present year five auctions will be held at Batavia, at each of which from 5 to 6 tons of sulphate of quinine are to be offered. The Bandong factory will therefore require a quantity of bark not less than 500 to 600 tons. At a meeting held on October 12 last, it was stated by the directors of the Bandong works that at that moment they had at their disposal sufficient bark to produce 12 tons of quinine, and during the meeting they secured options from various planters for further parcels estimated to produce nearly 14 tons more, giving a total of 26 tons of quinine. This does not include any Government bark, so that it appears that there will be ample quinine manufactured in Java to meet the requirements of the auctions. The first auction will be held at Batavia on February 28. The dates of the other auctions are unofficially stated to be April 25, June 27, August 29, and October 31.

Scientific Progress.

Constitution of Alkaloids.—Dr. A. R. L. Dohme contributes to the *Amer. Journ. Ph.* a paper on the history of the constituents of the alkaloids. He traces the origin of the word and the early theories on the subject of the constituents of the bodies discovered in the alkaloid era (1817–1835). Dr. Dohme brings the subject up to date, and predicts that in twenty years' time the constitution of every alkaloid will be known definitely.

The Active Principles of Rhubarb.—Tschirch (*Archiv. d. Pharm.* xxxvii., 632) discusses the recently-published views of Hesse on this subject, and points out that the latter erroneously attributes English rhubarb to *Rheum palmatum* instead of *R. Rhaponticum* and *R. officinale*. Numerous experiments have shown that chrysophanic acid (dioxymethylanthraquinone) is a true purgative, but less active than emodins (the corresponding trioxy derivative). Tschirch holds that the methylanthraquinones require one or more oxy groups to be present in order that the purgative properties may be developed, and that all the oxymethylanthraquinones are purgatives which may well replace the natural drugs.

Emodin.—*A propos* of the last note, Oersterle (*Archiv. d. Pharm.* 1899, 699) discusses the identity of the emodins found in various drugs, aloe-emodin and frangula-emodin in particular. This paper is of great importance, and appears to prove beyond doubt that the bodies known as emodin from these two sources are isomeric and not identical. Certain colour-reactions serve to distinguish the two, among which is the following:—The emodin is heated for a short time with concentrated sulphuric acid and a drop of the mixture added to water, which is then treated with excess of ammonia. Frangula-emodin gives a cherry-red, and aloe-emodin a violet colour. The evidence, however, upon which Oesterle bases his conclusions is as follows:—By acting on the emodin with propionic anhydride in the presence of a trace of sulphuric acid, a propionyl derivative (or mixture of several such bodies) is formed, which melts, in the case of aloe-emodin, at 152°–153° C., and in the case of frangula-emodin, at 121 – 122° C. By shaking a solution of emodin in caustic-soda solution with benzoyl chloride, a benzoyl derivative is formed, which, in the case of aloe-emodin, is a tribenzoyl-emodin melting at 235° C., and in the case of frangula-emodin a dibenzoyl derivative melting at 225° C. The isomerism of these oxyanthraquinone derivatives appears to depend entirely on the position of the hydroxy groups, which may be on the same, or on two, or on three benzin nuclei.

The Estimation of Peptones, &c.—Effront (*Ann. d. Chim. Analyt.* 1900, 16) publishes an important paper on the estimation of albumoses and peptones, which should have a direct bearing on the evaluation of the digestive power of pepsine. Effront takes 50 c.c. of a 5-per-cent. solution of the crude peptone. This is neutralised exactly with decinormal soda-solution, and allowed to stand for two hours. The syntonin is filtered off and washed with water, then with absolute alcohol, dried, and weighed. It should be incinerated, and the ash deducted from the weight. The neutral liquid, free from syntonin, can be used for the further analysis, but it is more convenient to use a fresh portion, which should be neutralised with normal alkali, so as to avoid undue dilution. It is made up to 55 c.c. with water, and filtered after standing for two hours, when 44 c.c. of the filtrate is taken (corresponding to 40 c.c. of the original solution), 8 c.c. of normal hydrochloric acid added, 250 c.c. of alcohol, and 8 c.c. of normal alkali, and the whole shaken and allowed to settle. The precipitate is collected after two hours on a weighted filter, washed with alkali, and dried at 100° C. This may be taken as the amount of albumoses which are almost pure. The filtrate is evaporated on a water-bath, and the residue, dried at 100° C., represents the weight of peptones and mineral matter. The weight of sodium chloride added is 0·468 gramme, which may be subtracted, and the remainder represents very closely the amount of peptones.

Chemical Society.

WHEN the President took the chair on January 18 there was a fairly full list of papers, but no author was present to communicate his results to the Society. Professor Dunstan, however, proceeded to give an account of a paper received from Professor Stieglitz and Dr. Glossan, entitled

Note on Nitrogen Haloid Compounds.

The authors claim that Drs. Chattaway and Orton had overlooked their work done at the University of Chicago, and gave an account of the line of research they contemplated pursuing in future. Dr. Chattaway regretted that the papers had been for a time overlooked, and said that full references to the work would be found in a paper now in course of publication. Their work would not overlap, because his (Dr. Chattaway's) object was to show that the chlorination and bromination of anilines and anilides was not direct, but that nitrogen bromides and chlorides were always first formed.

Dr. Scott then read an account by Dr. Szarvasy of some work done in the Davy-Faraday laboratory. The paper was entitled

On the Electrolysis of the Nitrogen Hydrides and of Hydroxylamine.

The main interest of the work was an attempt to obtain polymeric nitrogen in the state of N_6. While this substance could not be isolated, there were many reasons to believe in its existence.

Professor Ramsay, in the course of the discussion, gave an account of some experiments carried on in his own laboratory with the same object, and dramatically confessed his absolute failure to isolate the substance he knew to be present in solution.

A little burst of applause heralded the arrival of Dr. Hewitt, who was down to read a paper on the relationship between

The Constitution of Substances and their Fluorescence.

Defining fluorescence as the absorption of radiant energy of definite wave-length or wave-lengths and emission of the same energy after it has been reduced in vibration-frequency, Dr. Hewitt said one would expect to find fluorescence usually a property of substances capable of existing in tautomeric forms. As a matter of fact, the colouring-matters which do exhibit fluorescence are almost without exception tautomeric, the exceptions which are known being usually substances for which no very great degree of purity can be guaranteed. He gave as an example of these tautomeric changes fluorescein, and examined the cases which did not conform to his rule—explaining that many of the exceptions were probably only apparent, the fluorescent spectrum not having been sufficiently examined.

Professor Clowes, in the discussion, called attention to Professor Dewar's experiments where, at low temperatures, even cellulose became strongly fluorescent, and in his reply Dr. Hewitt pointed out our entire ignorance of the structure of such bodies, and of the molecule of such substances as quinine, uranium salts, and many other fluorescent bodies.

Mr. George William Smith, manager to Messrs. R. W. Greeff & Co., Eastcheap, E.C., has been installed W.M. of the Temple Bar Lodge.

Mr. Henry Wheeler, of Messrs. Finsler & Wheeler, drug and produce merchants, 9 Great Tower Street, E.C., sails on January 29, per s.s. *St. Paul* for New York. He expects to be absent for some five or six weeks.

Western Chemists Musical.—An enjoyable social and musical evening was held by the members of the Western Chemists' Association of London on January 24, the President (Mr. J. F. Harrington) in the chair.

Homocea has now got on entirely new administrative lines. The staff is changed, only the chemist and head packer remaining. The business is to be controlled from the London office, and the directors are going ahead with advertising.

The Chemist's Christmas Dream.

Coming Events.

Notices of meetings are inserted free in this section if received by the Editor not later than Wednesday of the week before the meetings are held.

Tuesday, January 30.

Bradford and District Chemists' Association, County Restaurant, Bradford, at 9 P.M. Debate on proprietary articles—"How Far is Substitution Justifiable?"

Wednesday, January 31.

Public and Poor-law Dispensers' Association, St. Bride's Institute, Ludgate Circus, E.C., at 8 P.M. Short papers and dispensing notes.

Society of Chemical Industry (Nottingham Section), at 7 P.M. Monthly meeting at Burton.

The "Allenburys" Cricket Club. Bohemian concert at the Falstaff Restaurant, Philpot Lane, Eastcheap, E.C., at 8 P.M.

Thursday, February 1.

The Röntgen Society, 20 Hanover Square, W., at 8 P.M. Paper by Dr. H. Walsham on "Röntgen Rays in Diseases of the Chest." Mr. A. H. Stewart will show a small Egyptian mummy and skiagrams of the same.

Chemists' Assistants' Association, 73 Newman Street, W., at 9 P.M. Paper by Mr. T. E. Wallis on "Aquatic Plants."

Chemical Society, Burlington House, Piccadilly, W., at 8 P.M. Papers to be read:—"The Chlorine Derivatives of Pyridine. Part V. Synthesis of *aa'*-dichloropyridine. Constitution of Citrazinic Acid," by Messrs. W. J. Sell and F. W. Dootson. "The Formation of Heterocyclic Compounds," by Messrs. S. Ruhemann and H. E. Stapleton. "The Space Configuration of Quadrivalent Sulphur Derivatives. Methyl-ethylthetin dextrocamphorsulphonate and Dextrobromocamphorsulphonate," by Messrs. W. J. Pope and S. J. Peachey. "Nitrocamphane," by Mr. M. O. Forster.

Friday, February 2.

Royal Institution of Great Britain, Albemarle Street, Piccadilly, W., at 9 P.M. Signor G. Marconi on "Wireless Telegraphy."

Glasgow Chemists' and Druggists' Assistants' and Apprentices' Association, 100 West Regent Street, Glasgow, at 9.15. "The Medicinal Plants of the Clydesdale Farm," by Mr. W. Bowie.

Chemists' and Druggists' Society of Ireland. Annual meeting, in the Minor Hall, Y.M.C.A., Wellington Place, Belfast. Tea at 7.30; music and cinematograph-display afterwards. Tickets (1*s*. each) from Mr. W. J. Rankin, 10 Garfield Chambers, Belfast.

The nineteenth Junior Pharmacy Ball will be held at the Portman Rooms, Baker Street, W., on February 7. Tickets (7*s*. 6*d*. each) may be had from the Hon. Secretary, Mr. R. L. Cassie, 49 Newgate Street, E.C., or of the Stewards.